Lee County
Southwest Florida
BOARD OF COUNTY COMMISSIONERS

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VIA CERTIFIED MAIL 7016 1370 0000 4079 0193

June 23, 2020

Neale Montgomery, Esquire
Pavese Law Firm
P.O. Drawer 1507
Fort Myers, FL 33902

Re: Verdana Village Development Agreement
Recorded Copy

Dear Neale:

Enclosed please find a recorded copy of the Verdana Development Agreement. This document was recorded in the Public Records of Lee County, Instrument #2020000138141 on June 18, 2020.

The recorded document was transmitted to the Department of Community Affairs within the 14-day period set forth in Florida Statutes.

If I may be of further assistance, do not hesitate to contact me.

Sincerely,

Michael D. Jacob
Deputy County Attorney

MDJ:tlb
Enclosure

cc via email only:
Audra Ennis, Manager, DCD Zoning
Mikki Rozdolski, Manager, DCD Planning

INSTR. # 2020000138141, Pages 45
Doc Type: AGR, Recorded: 6/18/2020 at 8:12 AM
Linda Doggett Lee County Clerk of the Circuit Court
Rec Fees: $384.00

Deputy Clerk TKING
#1

DEVELOPMENT AGREEMENT
(Verdana Village)

THIS DEVELOPMENT AGREEMENT (hereinafter, "Agreement") is entered into this 16th day of June 2020, by and between:

LEE COUNTY, a political subdivision and charter county of the State of Florida (hereinafter "County"), having its principal office at 2115 Second Street, Fort Myers, FL 33901; and

TPL-LAND-SUB, LLC, a Florida limited liability company (hereinafter "TPL" or "Landowner"), whose address is 21101 Design Parc Lane Suite 103, Estero, FL 33928.

CAM VILLAGE DEVELOPMENT, LLC, a Florida limited liability company (hereinafter "CAM" or "Developer"), whose address is 21101 Design Parc Lane Suite 103, Estero, FL 33928.

WHEREAS, the Florida Local Development Agreement Act, Sections 163.3220-163.3243, Florida Statutes ("the Act"), authorizes a local government to enter into a development agreement in order to promote certainty in the development approval process, strengthen the public planning process, encourage sound capital improvement planning and financing, assist in assuring there are adequate capital facilities for the development, encourage private participation in comprehensive planning, and reduce the economic costs of development; and

WHEREAS, the County has adopted Chapter 2, Article III of the County's Land Development Code to enable the County to implement the provisions of the Act; and

WHEREAS, Section 2-97, of the County's Land Development Code requires compliance with Section 163.3227, Florida Statutes, "Requirements of a development agreement"; and

WHEREAS, TPL owns approximately 2138 +/- acres of land located in Lee County, said property being legally described in Exhibit "A" attached hereto (hereinafter, "the Property:); and

WHEREAS, applications were filed for Comprehensive Plan Amendments: CPA2016-00003, CPA2016-00009, and CPA2019-00005 (hereinafter, "CPA") and an application for a Mixed-Use Planned Development (DCI2019-00018) rezoning (hereinafter, "MPD Rezoning") for the Property, requesting approval of residential uses, ancillary uses related thereto, and neighborhood commercial uses; and

WHEREAS, the MPD Rezoning was approved by Lee County on May 6, 2020; and

WHEREAS, all references herein to the Project is a reference to the Project permitted by the County pursuant to DCI2019-00018 and Resolution Z-20-006 (Resolution Z-20-006 which identifies the Project as Verdana Village); and

WHEREAS, the County, Landowner, and Developer desire to enter into this Agreement to provide appropriate mitigation for the transportation impacts associated with the MPD Rezoning; and

WHEREAS, the County, Landowner, and Developer seek to ensure adequate road, sewer, water, fire and EMS facilities and services are available to serve Verdana Village through this Agreement; and

WHEREAS, the County conducted two public hearings on May 19, 2020, and June 16, 2020, prior to entering into this Agreement, both of which were properly noticed by publication in the News-Press and by mailed notice to the affected property owners in accordance with Section 163.3225(2), Florida Statutes.

NOW, THEREFORE, in consideration of the covenants and conditions contained herein and of the benefits to accrue to each Party, the County, Landowner, and the Developer agree as follows:

1. Recitals. The foregoing recitations are true and correct and are incorporated herein by reference. All exhibits to this Agreement are deemed a part hereof.

2. Property Subject to this Agreement. The Property described on the attached Exhibit "A" is subject to this Agreement. The term Property and Project are used interchangeably in this agreement.

3. Ownership. TPL represents that it is the fee owner of the Property and as such may lawfully enter into this Agreement.

4. Development. CAM represents that it will construct the development following the terms of this Agreement and as per the plans approved by the County.

5. Development Uses permitted on the Land. The Proposed Development of the Property must comply with the terms of the zoning resolution (Z-20-006) adopted by the Board of County Commissioners on (May 6, 2020) which permits the following uses on the Land:

    a. A maximum of 2,400 dwelling units; and

    b. A maximum of 100.000 square feet of neighborhood commercial floor area; and

    c. Recreational amenities, to be located within the development pods; and

    d. The maximum building height for multi-family dwelling units is 45 feet, the maximum height for commercial and amenity center(s) is 45 feet, the maximum height for all other types of dwelling units is 35 feet; and

    e. The population density, based on the Lee County population per household of 2.35 multiplied by 2400 is 5,640; and

    f. The Development as approved by Resolution Z-20-006, is consistent with the Lee County Comprehensive Plan and Land Development Code.

6. Public Facilities. The following public facilities will serve the Proposed Development on the Property:

a. Potable Water: Potable water will be supplied by Lee County Utilities (LCU) and LCU presently has adequate capacity at the Corkscrew Water Treatment Plant to serve the Proposed Development.

b. Sanitary Sewer: Wastewater services will be provided by LCU and LCU has adequate capacity at the Three Oaks Wastewater Treatment Plant to serve the Proposed Development.

c. Solid Waste: Solid waste service will be provided by the hauler franchised by the County and the Lee County waste-to-energy facility and is presently adequate to serve the Proposed Development.

d. Drainage: Subject to the requirements of paragraph 8 below, drainage will be provided for the Project in accordance with the applicable environmental resource permit ("ERP") to be issued by the South Florida Water Management District (SFWMD) and will be designed and constructed in compliance with all applicable federal, state, and county standards and requirements.

e. Fire and Rescue Fire control and rescue services will be provided by the Estero Fire Rescue District, and EMS will be provided by Lee County Public Safety subject to subsection 10. of this agreement.

7. Development Permits Needed for the Proposed Development. A list of all governmental permits needed for the Proposed Development is set forth below:

South Florida Water Management District Environmental Resource Permit
South Florida Water Management District Water Use Permit (dewatering)
South Florida Water Management District Water Use Permit (irrigation)
Lee County Development Orders
Lee County Building Permits
FDEP Wastewater Permit
LCDOH Potable Water Permit
Lee County Vegetation Removal Permit
Lee County Right of Way Permit
FDEP NPDES

The failure of this Agreement to address a particular permit, condition, term or restriction shall not relieve the Developer of the necessity of complying with the law governing said permitting requirements, conditions, terms, or restrictions.

8. Developer Commitments and Obligations. For and in consideration of the benefits received pursuant to this Agreement, the Developer agrees as follows:

a. Pursuant to Policy 38.1.7 of the Lee Plan, the County authorized a transportation proportionate share study to determine the proportionate share cost for roadway

improvements identified within the study. The County and Developer agree that traffic impacts anticipated from the development approved pursuant to the CPA and MPD Rezoning will be mitigated by the Developer as follows:

i. The Developer will pay a maximum of $4,800,000.00 as its Proportionate Share for the proposed transportation impacts associated with the Project.

ii. The Proportionate Share amount must be paid in one lump sum no later than March 31, 2021.

iii. After the Proportionate Share payment is made, the Developer, or its successors in interest, will pay Road impact fees for the Project at the time of issuance of a building permit in accordance with Chapter 2 of the Land Development Code.

iv. Road impact fees will be calculated at the applicable impact fee collection rate for the applicable uses at the time of issuance of the building permits.

v. No additional Transportation Mitigation will be required other than necessary site-related improvements determined at the time of local Development Order.

vi. The entity that pays the impact fee is the impact fee payer. The entity that pays the proportionate share is the proportionate share payer.

vii. Once the maximum of $4,800,000.00 proportionate share amount is paid by the Developer the Project shall be fully vested for transportation purposes for the development identified herein. Nothing in this agreement shall cap or limit the builder paid impact fees.

viii. Should the Developer determine that the full 2400 units will not be constructed, then the Developer shall obtain an administrative amendment to the zoning that reduces the total number of permitted and available units. If the reduction in units is approved after the payment of the proportionate share, then the Developer can seek a refund of the excess proportionate share payment calculated at $2000.00 per residential unit. The refund must be requested in writing within three years of the issuance of the zoning resolution or administrative amendment that reduces the total number of permitted and available residential units. The refund must be requested prior to the County approval of the Contract for construction of the Corkscrew Road roadway improvements identified in the Study.

The Corkscrew Road Improvements (4 laning) is in the five year Capital Improvement Program with Construction and CIE from 2019 to 2021.

9. To assist the County in review of its existing wastewater infrastructure capacity in anticipation of the proposed Project, LCU staff worked with their consultants and the Landowners consultant to model the capacity in the existing system. The design criteria and methodology was provided by the County to perform the hydraulic analysis of the Project and the Corkscrew Road force main to the

Pinewoods Master Pump Station, see Exhibit "B" attached Hydraulic Analysis report dated September 10, 2019.

The County accepts the attached report analysis, findings and conclusions confirming the LCU existing wastewater system has sufficient capacity, including flows and velocity, to service the Project.

The County has confirmed there is sufficient force main sewer and Three Oaks WWTP capacity to service the Project and has further studied the existing offsite wastewater system to identify any upgrades or improvements to the existing system that must be funded by the Developer for the Project. Based on the proposed Project and the agreed upon analysis, the required offsite wastewater system upgrades or improvements funded by the Developer will only consist of the utility extensions identified in Exhibit "C".

The County will not delay or deny construction of the Project or cap the future issuance of building permits due to any future Lee County wastewater system upgrades or improvements. However, in situations resulting from natural or manmade disasters, temporary holds on new services within the service area, not limited to the Project, may be required. The County will have sufficient capacity in the system or has plans for future capacity improvements that will make the necessary modifications to the system to be able to provide service to the Project.

10. Emergency Medical Services - When 25% of project residential lots have received a certificate of occupancy (CO), the Department of Community Development will issue a written notice to the developer. Upon receipt of the notice, the developer, at Lee County's option must take the following action within 30 days:

    a. Coordinate the transfer of a two-acre parcel of land fronting on Corkscrew Road for the development of an EMS or multi-use Public Safety facility, subject to Board of County Commissioners approval; or

    b. Provide a one-time donation of two hundred thousand dollars ($200,000.00) toward capital improvements necessary to support service delivery in the area of the project

    This donation does not entitle the developer to fire or EMS impact fee credits

11. The Landowner, and Developer's obligations under subparagraphs above are expressly contingent upon and may not be enforced by the County until the expiration of all applicable periods for judicially or administratively appealing or challenging the CPA, the MPD Rezoning, and the South Florida Water Management District Environmental Resource Permit ("ERP") (the CPA, MPD Rezoning, and ERP being collectively referred to herein as "the Permits"), without an appeal or challenge being filed to any or all of the Permits or, if filed, until such appeal(s) or challenge(s) are decided or resolved in a manner that upholds the validity of the Permits as approved by the issuing governmental authority and the level of development described in paragraph 5 above.

12. Applicable Land Use Regulations. Pursuant to Section163.3233, Florida Statutes, the Proposed Development within the Property shall be subject to the County's land development regulations, Resolution Z-20-006, and policies governing development as of

the Effective Date of this Agreement. The County may apply subsequently adopted regulations and policies only in accordance with Section 163.3233(2), Florida Statutes.

13. Duration of Agreement. This Agreement shall remain in full force and effect for twenty (20) years from its Effective Date unless terminated upon completion of the Project and all obligations set forth herein by the Parties. The duration of the Agreement may be extended with the Parties' mutual consent in accordance with Section 163.3229, Florida Statutes.

14. Amendment and Termination.

a. This Agreement may be amended or terminated with the Parties' mutual consent, in writing signed by all Parties.

b. This Agreement will terminate upon expiration of the term of the Agreement specified in paragraph 13 above, without said term having been extended by the Parties in writing.

c. At TPL or CAM's option, TPL or CAM may terminate this Agreement if any judicial or administrative challenge or appeal of the approved CPA or MPD Rezoning is not decided or resolved in a manner that upholds the validity of the CPA or MPD Rezoning as approved by the County and the level of development described in paragraph 5 above.

d. This Agreement supersedes and terminates the Pepperland Ranch Project Developer Agreement recorded as Instrument #2017000183852.

e. Exhibit B, to Ordinance 17-14, must be amended by the County in accordance with the attached Exhibit "D" to reflect accurate density and intensity.

15. Periodic Review. The County will review this Agreement annually beginning on the first anniversary of the Effective Date pursuant to Section 163.3235, F.S., to determine if there has been good faith compliance with the terms of this Agreement. If the County determines that there has been a failure to comply with the terms of this Agreement, the County may, after notice to the Landowner and Developer specified in paragraph 16 below, commence enforcement or legal actions to enforce the terms of this agreement.

16. Notices. All notices required or permitted under this Agreement shall be in writing and shall be mailed by certified mail, return receipt requested to the following addresses, or to such other person or address as any Party may designate from time to time in writing:

If to the Landowner: TPL-Land-Sub, LLC
2110 Parc Lane, Suite 103
Estero, FL 33928
Attn: Joseph Cameratta

If to the Developer: CAM Village Development, LLC
2110 Parc Lane, Suite 103
Estero, FL 33928
Attn: Ray Blacksmith

If to the County: Lee County
2115 Second Street
Fort Myers, FL 33901
Attn: County Manager

With a copy to: Lee County
2115 Second Street
Fort Myers, FL 33901
Attn: Lee County Attorney

17. Remedies. Any material breach of this Agreement may be enforced by either Party as against the other by appropriate action in law or equity filed in a court of competent jurisdiction; provided, however, no such action may be brought until the defaulting Party has been given notice and ninety (90) days in which to cure the default. If the default cannot reasonably be cured within the ninety (90) day period, such period shall be extended if the cure is commenced within such ninety (90) days and the defaulting Party is proceeding with due diligence for such period of time reasonably required to complete such cure.

18. Governing Law. This Agreement shall be construed and interpreted according to the laws of the State of Florida, and venue with respect to any litigation between the Parties related to this Agreement shall be exclusively in Lee County, Florida.

19. Severability. If any part, term, or provision of this Agreement is held to be illegal, void, or unenforceable, the remaining portions or provisions of this Agreement shall not be affected or impaired, each remaining provision shall remain in full force and effect, and the rights and obligations of the Parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provision held to be invalid.

20. Entire Agreement; Termination of Prior Agreements. This Agreement embodies the whole agreement of the Parties. There are no promises, terms, conditions, or obligations other than those contained herein; and this Agreement shall supersede all previous communications, representations, or agreements, either verbal or written, regarding the Proposed Development of the Property between the Parties.

21. Conflict of Laws. Pursuant to Section 163.3241, Florida Statutes, if state or federal laws are enacted subsequent to the execution of this Agreement which are applicable to and preclude either Party's compliance with the terms of this Agreement, this Agreement shall be modified as is necessary to comply with the relevant state or federal laws. The failure of the agreement to address a particular permit, condition, term, or restriction shall not relieve the developer of the necessity of complying with the law.

22. Covenants Running with the Land and Successors and Assigns. The obligations imposed and entitlements created pursuant to this Agreement shall run with and bind the Property as covenants running with the land, and this Agreement shall be binding upon and enforceable by and against the Parties hereto, their personal representatives, heirs, successors, grantees, and assigns, and future property owners, Associations, and Development Districts. Upon prior notice and approval by the County, the obligations of

the Landowner and Developer may be assigned to one or more successor landowners, developers, property owners associations or to one or more CDDs, and the Landowner and/or Developer shall thereafter be relieved of all obligations hereunder. Unless approved by the Board, any assignments granted hereunder will not apply to obligations incurred prior to the assignment.

23. Effective Date. This Agreement will become effective upon full execution by both Parties and recording of the Agreement in the Public Records of Lee County. As provided above, Landowner and Developer's obligations are expressly contingent upon and may not be enforced by the County until the expiration of all applicable periods for judicially or administratively appealing or challenging the Permits without such an appeal or challenge being filed or, if filed, until such appeal or challenge is resolved in a manner that upholds the validity of the Permits as approved by the issuing governmental authority and the level of development described in paragraph 5 above.

24. Recording of Agreement. This Agreement will be recorded by the County in the Public Records of Lee County within fourteen (14) days of approval by the Lee County Board of County Commissioners. The costs of recording this Agreement will be paid by the Landowner.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year written below.

WITNESSES

Print Name Ray BLACKSMITH

Print Name Cheryl Smith

Landowner
TPL-Land-Sub, LLC,
a Florida limited liability company

By: CMPROP Land Investments, LLC,
a Florida limited liability company
its sole Member

By: _____
Joseph Cameratta, Manager

STATE OF Fl
COUNTY OF Lee

The foregoing instrument was acknowledged before me this 2 day of June, 2020, by means of ☒ physical presence or ☐ online notarization, by Joseph Cameratta, as Manager of CMPROP Land Investments, LLC, a Florida limited liability company, its sole Member of TPL-Land-Sub, LLC, a Florida limited liability company, who is personally known to me or who produced _____ as identification.

Cheryl A. Smith
Notary Public Signature

My Commission Expires:

CHERYL ANN SMITH
MY COMMISSION # GG 206419
EXPIRES: October 17, 2021
Bonded Thru Notary Public Underwriters

_____
Type/Print Notary Public Name

Commission No:_____

WITNESSES

Cheryl Smith

Print Name Cheryl Smith

Print Name Laura Yonan

Developer
CAM Village Development, LLC
a Florida limited liability company

By: _____
Ray Blacksmith, Manager

STATE OF FL
COUNTY OF Lee

The foregoing instrument was acknowledged before me this 2 day of June, 2020, by means of ☒ physical presence or ☐ online notarization, by Ray Blacksmith, as Manager of CAM Village Development, LLC, a Florida limited liability company, who is personally known to me or who produced _____ as identification.

Cheryl A. Smith
Notary Public Signature

My Commission Expires:

Type/Print Notary Public Name

Commission No:_____

CHERYL ANN SMITH
MY COMMISSION # GG 206419
EXPIRES: October 17, 2021
Bonded Thru Notary Public Underwriters

ATTEST:
LINDA DOGGETT, CLERK

BY: _____
Deputy Clerk

BOARD OF COUNTY COMMISSIONERS
OF LEE COUNTY, FLORIDA

BY: _____
Brian Hamman, Chair

APPROVED AS TO FORM FOR THE
RELIANCE OF LEE COUNTY ONLY

By: _____
Lee County Attorney's Office

Exhibits:

"Exhibit A" – The Property
"Exhibit B" – Hydraulic Analysis report
"Exhibit C" – Project Utility Extensions
"Exhibit D" – Ordinance 17-14 (Exhibit B)

EXHIBIT "A"
PROPERTY LEGAL DESCRIPTION

DESCRIPTION

Parcel in
Sections 29, 30, 31 and 32,
Township 46 South, Range 27 East,
Lee County, Florida

A tract or parcel of land lying in Sections 29, 30, 31 and 32, Township 46 South, Range 27 East, Lee County, Florida, said tract or parcel of land being more particularly described as follows:

COMMENCING at the Northeast corner of said Section 29 run S89°19'58"W along the North line of the Northeast Quarter (NE 1/4) of said Section 29 for 330.01 feet to an intersection with the West line of the East 330 feet of said Section 29; thence run S01°05'41"E along said West line for 50.00 feet to an intersection with the South right of way line of Corkscrew Road (100' wide right of way) and the POINT OF BEGINNING.
From said Point of Beginning continue S01°05'41"E along said West line for 5,302.78 feet; to an intersection with the North line of the Northeast Quarter (NE 1/4) of said Section 32; thence run N89°58'16"E along said North line for 330.06 feet to the Northeast corner of said Section 32; thence run S00°54'19"E along the East line of the Northeast Quarter (NE 1/4) of said Section 32 for 2,594.64 feet to the East Quarter corner of said Section 32; thence run S00°53'57"E along the East line of the Southeast Quarter (SE 1/4) of said Section 32 for 1,144.23 feet to an intersection with the North line of lands described in a deed recorded in Official Records Book 2032, at Page 1106, Lee County Records; thence run along the Northerly and Westerly line of said lands the following two (2) courses: S89°03'50"W parallel to the south line of said Fraction for 1,800.00 feet and S00°53'57"E parallel with the East line of said Fraction for 1,452.00 feet to an intersection with the South line of said Fraction; thence run S89°03'50"W along the South line of said Fraction for 848.66 feet to the South Quarter corner of said Section 32; thence run S89°10'20"W along the South line of the Southwest Quarter (SW 1/4) of said Section 32 for 2,651.10 feet to the Southeast corner of said Section 31; thence run S88°55'41"W along the South line of the Southeast Quarter of said Section 31 for 2,632.71 feet to the South Quarter corner of said Section 31; thence run N00°55'01"W along the West line of the East Half (E 1/2) of said Section 31 for 5,278.97 feet the North Quarter corner of said Section 31; thence run S89°15'54"W along the South line of the Southwest Quarter (SW 1/4) of said Section 30 for 2,639.48 feet to the Southwest corner of Section 30; thence run N00°46'19"W along the West line of said Fraction for 2,641.21 feet to the West Quarter corner of Section 30; thence run N00°46'49"W along the West line of the Northwest Quarter (NW 1/4) of Section 30 for 2,631.06 feet to an intersection with the South right of way line of Corkscrew Road (100' wide right of way); thence run along said South right of way line the following four (4) courses: N89°23'21"E for 2,632.12 feet; N89°32'32"E for 2,638.97 feet; N89°20'15"E for 2,636.30 feet and N89°19'58"E for 2,306.61 feet to the POINT OF BEGINNING.

Bearings hereinabove mentioned are State Plane for the Florida West Zone (1983/NSRS 2007) and are based on the North line of the Northeast Quarter (NE 1/4) of said Section 29 to bear S89°19'58"W.

EXHIBIT "B"
HYDRAULIC ANALYSIS

Lee County
Southwest Florida

BOARD OF COUNTY COMMISSIONERS

September 18, 2019

Mr. Joseph Cameratta
TPL-Land-Sub, LLC
c/o Cameratta Companies, LLC
4954 Royal Gulf Circle
Fort Myers, FL 33966

RE: Verdana Village

Dear Mr. Cameratta:

It is my understanding that you have pending comprehensive plan and zoning applications that would result in the merger of the Pepperland Ranch property approved in Zoning Resolution Z-17-013 and the Verdana property approved in Zoning Resolution Z-18-010 with an additional 40 acres that was an enclave in the midst of Verdana and Pepperland. It is also understood that the 40 acres will not be included in the water and sewer franchise area because no units will be built on the 40 acres and there is no need for utilities.

As you have described, the total number of units proposed for the combined projects, now known as Verdana Village, will be a maximum of 2,400 units. The Rezoning Application will also include a request for approximately 100,000 square feet of Neighborhood Commercial along with master and neighborhood amenity tracts.

To assist the County in review of its existing infrastructure capacity in anticipation of the intensity of the proposed Project, County staff has worked with their consultants and your consultant, Patrick Day of DRMP, Inc, to model the capacity in the existing system. The design criteria and methodology was provided by Lee County to perform the hydraulic analysis of the Verdana Village project and the Corkscrew Road force main to the Pinewoods Master Pump Station, see attached report dated September 10, 2019. The County accepts the attached report analysis, findings and conclusions confirming the LCU existing wastewater system has sufficient capacity, including flows and velocity, to service the Verdana Village development downstream from the Project.

You have requested the County to confirm there is sufficient force main sewer and Three Oaks WWTP capacity to service the Verdana Village development and to identify the required offsite wastewater system upgrades or improvements that must be funded by the Developer for the project. Based on the proposed Project and the agreed upon analysis, the required offsite wastewater system upgrades or improvements funded by the Developer will only consist of the utility extensions shown on the previously approved LDO2018-00310 for the Verdana property.

If the Project is approved at the proposed intensity, the County will not delay or deny Verdana Village construction or cap the future issuance of Verdana Village building permits due to any future Lee County wastewater system upgrades or improvements. However, in situations resulting from natural or manmade disasters, temporary holds on new services within the service area, not limited to Verdana Village, may be required. The County will have sufficient capacity in the system or has plans for future capacity improvements that will make the necessary modifications to the system to be able to provide service to Verdana Village.

Sincerely,

Pamela Keyes, P.E.
Lee County Public Utilities Director

c: Neale Montgomery, Pavese Law
Ray Blacksmith, Cameratta Companies
Patrick Day, DRMP
Michael Jacob, County Attorney's Office
Glen Salyer, County Manager's Office
Mark Sunyak, P.E., LCU
Nathan Beals, LCU

DRMP, INC.

PRINCIPALS
Wayne D. Chalifoux
Donaldson K. Barton, Jr.
Glenn J. Lusink
Jon S. Meadows
Mark D. Prochak
Mark E. Puckett
Lawrence L. Smith, Jr.

CELEBRATING 40 years DRMP, INC.

DRMP

2306 Dr. Martin Luther King Jr. Blvd., Fort Myers, Florida 33901
Phone: 239.206.5093 | Fax: 239.357.7194

September 10, 2019 **DRMP Job #:**

Nathan Beals
Lee County Utilities
1500 Monroe Street
Fort Myers, FL 33901

Subject: Hydraulic Analysis Verdana Village and The Corkscrew Road Force Main to the Pinewoods Master Pump Station

Dear Mr. Beals:

This Report is to provide the results of the hydraulic model that DRMP prepared to determine the effects of the proposed sewer flow from Verdana Village through the force main system on Corkscrew Road and emptying into the Pinewoods Master Pump Station (MPS). We performed the modeling using Water CAD Version 8. Lee County Utilities (LCU) provided the following guidelines some of which were revised from those guidelines that were used to design the Pinewoods MPS. These guidelines include the following:

- Use a peaking Factor of 2.5 (per the Utilities Design Manual). This is a revision to the Pinewoods MPS modeling.
- Use a C-Factor on the 10" and 12" force mains of 130 (due to the material and age). This is a revision to the Pinewoods MPS modeling.
- Create a model with the 60% flow condition and not with the additional caveat of 60% pump stations operating.
- Assume a 10-inch force main to extend from Verdana Village to the existing 10-inch main at the entrance to The Place. The remainder of the force main system is existing and would not be altered for the modeling.
- Do not address the effects of the Verdana Village flows on the pump stations downstream of the Pinewoods MPS.

We were provided instructions to evaluate the system with the following scenarios:

1. 100% of Verdana Peak Flows only.
2. Sufficient number of pump stations running to the Pinewoods MPS to pump at least 60% of the total peak flow.

The following chart was used establish the 100% and 60% flows and is based on the requirements for establishing flow found in the Lee County Design Manual. The Design Manual states that the number of residents per multi-family units is 2.0, the number of residents per single family units is 2.5, and the flow per resident is 100 GPD.

Table 1 – Design Flows

Name of Development	*Multi Family Units* #	*Single Family Units* #	*Popu-lation*	*ADF (GPD)*	*Peak Hour Factor*	*100% Peak Hour Flow (GPM)*	*60% PHF (GPM)*
Verdana Village*		2400	6000	610000	2.50	1059	635
The Place		1325	3312.5	331250	2.50	575	345
Corkscrew Shores		647	1617.5	161750	2.50	281	169
Corkscrew Preserve		441	1102.5	110250	2.50	191	115
Bella Terra	336	1563	4579.5	457950	2.50	795	477
Wildcat Run	98	351	1073.5	107350	2.50	186	112
Grandezza		169	422.5	42250	2.50	73	44
WildBlue		700	1750	175000	2.50	304	182
Total Projected Flow			12108	1210800		3465	2079

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Tampa, Florida

1.800.375.3767
www.DRMP.com

*Includes 10,000 GPD from 100,000 SF of Retail. F.A.C. requires 0.1 gpd/sf.
LCU requires scenarios where a minimum of 60% of the flow be maintained in the Corkscrew Sewer System. From the table above, the 60% flow is required is 2079 GPM.

Background
Verdana Village is a proposed development on Corkscrew Road approximately 11,000 linear feet east of the existing development called The Place. At buildout Verdana Village will have 2400 single family units and 100,000 SF of retail space. A 10-inch force main has already been approved to be constructed in the Corkscrew Road ROW to connect from Verdana Village to the existing 10-inch force main that serves The Place. At this point, the flow from The Place is transmitted through a combination of 10-inch and 12-inch force mains to the newly constructed Pinewoods Master Pump Station (MPS). For purposes of this analysis, LCU did not require any modeling on the effects of the additional flow from Verdana Village on the Pinewoods MPS nor any of the downstream force main system. It is our understanding that any issues caused by the additional flow from Verdana Village affecting the Pinewoods MPS or the transmission system downstream of the MPS would be the responsibility of LCU to identify and correct. We are also aware that LCU is proposing a new Wastewater Facility (WWTF) in the area, most likely on Alico Road, and that ultimately the wastewater will end up being transmitted to this new WWTF. This future scenario is not part of this report.

Analysis
The model created depicts the force main system in Corkscrew Road from Verdana Village to the Pinewoods MPS as well as a master pump station for each of the seven developments along the way. Five different scenarios were created in this modeling effort to depict various pump station interfaces and they are described below. Also, in each section we provide the results of the modeling scenario and call out any adverse situations. The modeling is based on the following assumptions:

- We are treating the flow out of the Verdana Village Development as a single Master Pump Station. There may be two MPSs at Verdana Village.
- VFD drives will be installed in the Verdana Village MPS to reflect the varying pressures to overcome and flows to be delivered.
- The 60% flow condition was determined to be met by showing that 60% of the overall flow was being delivered to the Pinewoods MPS and not necessarily 60% flow from each of applicable developments. For instance, the 60% flow condition for Wildcat Run is 112 GPM, but in effect when the Wildcat Run MPS is operational, it pumps over 600 GPM. This is because the pumps were designed to pump all the way to the Three Oaks WWTF and with the addition of the Pinewoods MPS, the pumping distance and the dynamic head have been dramatically decreased.
- The Verdana Village MPS was modeled using an elevated reservoir. The MPS has not been designed nor the pumps selected. Modeling it with a reservoir provides the design parameters necessary for modeling purposes. Raising and lowering the reservoir reflects a pump with a VFD.
- The LCU maximum acceptable velocity in a pipe is 8.0 ft/s.
- The design capacity at the Pinewoods MPS is 2500 GPM with two pumps operating at full speed.

The results of the modeling are provided in the descriptions below and in the Exhibits attached. As stated above, the pump stations near the Pinewoods MPS pump much more flow than originally designed because they were designed to pump all the way to the Three Oaks Wastewater Treatment Facility and now they have a much shorter distance to pump. However, at some point, these pump stations will have to pump to the proposed new East Wastewater Facility and the operating points for these pumps may be closer to their original design points.

Scenario 1
Scenario 1 is a single Verdana Village MPS delivering 100% flow with no other pump stations operating. While there may eventually be two pump stations at Verdana Village, the concern of this modeling exercise is the pipe sizes on Corkscrew Road so for simplicities sake, only one MPS was included for Verdana Village delivering all the flow. To deliver 100% of the Peak Hour Flow of 1059 GPM, it will be necessary to have a pump that while operating at full speed can operate at a Total Dynamic Head (TDH) of 247 feet. At this flow and head the velocity in all pipes are within acceptable limits.

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Scenario 2

Scenario 2 is a 60% flow scenario with the following pump stations operating: Wildcat Run, Bella Terra, and Corkscrew Preserve Pump Stations 1 and 2. All other Pump Stations are off. The required 60% flow from Verdana Village is 635 GPM and the head that the VFD drives will be pumping against to achieve this flow is 171 feet. In this scenario the total flow from the four operating pump stations and the flow from Verdana Village is 2390 GPM. Here are the results:

Table 2
Scenario - 60% Run 1

		60%	60% Run 1		
ID	Label	Design Flow (gpm)	Status (Initial)	Flow (gpm)	Pump Head (ft)
2009	Corkscrew Shores MPS	169	Off	0	0
1006	Grandezza East	44	Off	0	0
939	Wildcat Run	112	On	624	46.6
1000	Bella Terra	477	On	527	96.47
2085	Wild Blue 1	182	Off	0	0
2092	Wild Blue 2		Off	0	0
1082	Cork Preserve 1	115	On	304	124.28
1081	Cork Preserve 2		On	300	101.59
2045	The Place MPS	345	Off	0	0
	Verdana Village	625		635	171
	Total			2390	

The results meet the LCU requirements of 60% flow with Verdana Village operating at 60%. No pipes exceeded 8 ft/s.

Scenario 3

Scenario 3 is a 60% flow scenario with the following pump stations operating: Corkscrew Shores, Bella Terra, WildBlue #2, and Corkscrew Preserve 1. All other Pump Stations are off. The required 60% flow from Verdana Village is 635 GPM and the head that the VFD drives will be pumping against to achieve this flow is 207 feet. In this scenario the total flow from the three operating pump stations with the flow from Verdana Village is 2484 GPM. Here are the results:

Table 3
Scenario 3 - 60% Run 2

		60%	60% Run 1		
ID	Label	Design Flow (gpm)	Status (Initial)	Flow (gpm)	Pump Head (ft)
2009	Corkscrew Shores MPS	169	On	746	132.4
1006	Grandezza East	44	Off	0	0
939	Wildcat Run	112	Off	0	0
1000	Bella Terra	477	On	399	123.91
2085	Wild Blue 1	182	Off	0	0
2092	Wild Blue 2		On	416	172.87
1082	Cork Preserve 1	115	On	288	127.67
1081	Cork Preserve 2		Off	0	0
2045	The Place MPS	345	Off	0	0
	Verdana Village	625		635	207
	Total			2484	

The results meet the LCU requirements of 60% flow with Verdana Village operating at 60%. No pipes exceeded 8 ft/s. The flow approaches the maximum capacity of the Pinewoods MP of 2500 GPM.

Scenario 4

Scenario 4 is a 60% flow scenario with the following pump stations operating: Grandezza East, Wildcat Run, and Bella Terra. All other Pump Stations are off. The required 60% flow from Verdana Village is 635 GPM and the head that the VFD drives will be pumping against to achieve this flow is 145 feet. In this scenario the total flow from the three operating pump stations and the flow from Verdana Village is 2559 GPM. The reason we ran this scenario was to show that if certain Pump Stations operate at the same time, the two-pump operating capacity of the pumps in the Pinewoods MPS might be exceeded. There is a third pump in the Pinewoods MPS for extreme flows. Also, please note that the pump stations that are on are all operating well above their design flow and this will only be a short-term operating condition. The following are the results:

Table 4
Scenario 4- 60% Run 3

		60%	60% Run 1		
ID	Label	Design Flow (gpm)	Status (Initial)	Flow (gpm)	Pump Head (ft)
2009	Corkscrew Shores MPS	169	Off	0	0
1006	Grandezza East	44	On	668	53.15
939	Wildcat Run	112	On	613	47.13
1000	Bella Terra	477	On	643	72.12
2085	Wild Blue 1	182	Off	0	0
2092	Wild Blue 2		Off	0	0
1082	Cork Preserve 1	115	Off	0	0
1081	Cork Preserve 2		Off	0	0
2045	The Place MPS	345	Off	0	0
	Verdana Village			635	145.00
	Total			2559	

Although the Pinewoods design flow was slightly exceeded, the results for the upstream system meet the LCU requirements of 60% flow with Verdana Village operating at 60%. No pipes exceeded 8 ft/s.

Scenario 5

Scenario 5 is a 60% flow scenario with the following pump stations operating: Wildcat Run, Bella Terra, and The Place. We wanted to see what happens with the MPS at the Place when it is in operation and to see what happens to the velocity in 10-inch main to the west of The Place when we modeled the both the MPS of The Place and Verdana Village MPS both in operation. To achieve the 60% flow of 635 GPM at Veranda Village which a peak TDH of 249.5-feet is required under this scenario. In this scenario the total flow from the three operating pump stations and from Verdana Village is 2250 GPM. Here are the results:

Table 5
Scenario 5- 60% Run 4

		60%	60% Run 4		
ID	Label	Design Flow (gpm)	Status (Initial)	Flow (gpm)	Pump Head (ft)
2009	Corkscrew Shores MPS	169	Off	0	0
1006	Grandezza East	44	Off	0	0
939	Wildcat Run	112	On	632	46.19
1000	Bella Terra	477	On	543	93.06
2085	Wild Blue 1	182	Off	0	0
2092	Wild Blue 2		Off	0	0
1082	Cork Preserve 1	115	Off	0	0
1081	Cork Preserve 2		Off	0	0
2045	The Place MPS	345	On	440	213.37
	Verdana Village			635	249.5
	Total			2250	

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In this scenario the MPS at The Place will pump 440 GPM @ 213.37' of head. This is more than the required 60% flow of 345 GPM. The Verdana Village MPS operating at a head of 249.5 feet will deliver 635 GPM is the required 60% of the peak design flow. The velocity in the 10-inch force main in front of The Place is 4.49 ft/s which is very acceptable.

By using the following LCU approved modeling inputs:

- Reduction of the peak factor from the variable "10 States Standards" to a fixed 2.5,
- Increasing the C factor to 130 from previous models, and
- Modifying the design criteria from 60% of the downstream lift stations being on to 60% of the downstream peak flow being considered

we believe that the 10-inch and 12-inch force main system from Verdana Village to the Pinewoods MPS meet the LCU design standards as provided in the LCU Design Manual. However, it is apparent that in the scenarios above some of the pump stations are pumping well above the required design flow. This is due to the fact that the Pinewoods MPS is much closer than the Three Oaks WWTF to which they were originally designed to pump. However, when the new Alico Road WWTF is constructed, these pumps may return to functioning as intended.

If you have any questions, please feel free to call at 239 206-5093.

Sincerely,
DRMP, Inc.

Patrick Day, P.E. # 56709, BCEE
Senior Engineer

CC: Ray Blacksmith, Cameratta Companies, LLC

Upstream Flow Development for Pinewoods MPS

Name of Development	*Commer-cial** sf	*Multi Family Units* #	*Single Family Units* #	*Popu-lation* #	*ADF (GPD)*	*Peak Hour Factor*	*Peak Hour (GPM)*	*60% PHF (GPM)*	*Accum. Pop.* #	*Accum Flow GPD*	*Accum PHF*	*Peak Hour Flow (GPM)*
Verdana Village	100,000		2400	6000	610000	2.50	1059	635	6000	610000	2.50	1059
The Place			1325	3312.5	331250	2.50	575	345	3312.5	941250	2.50	1634
Corkscrew Shores			647	1617.5	161750	2.50	281	168	4930	1103000	2.50	1915
Corkscrew Preserve			441	1102.5	110250	2.50	191	115	6032.5	1213250	2.50	2106
Bella Terra		336	1563	4579.5	457950	2.50	795	477	10612	1671200	2.50	2901
Wildcat Run		98	351	1073.5	107350	2.50	186	112	11685.5	1778550	2.50	3088
Grandezza			169	422.5	42250	2.50	73	44	12108	1820800	2.50	3161
WildBlue			700	1750	175000	2.50	304	182	13858	1995800	2.50	3465
Total Projected Flow				12108	1210800		3465	2079				3465

*Florida Admnistrative Code Requires 0.1 GPD/SF of retail space

Verdana Village Model Results for Sewer Flow to Pinewoods MPS

ID	Label	60% Design Flow (gpm)	Verdana Only			60% Run 1			60% Run 2		
			Status (Initial)	Flow (gpm)	Pump Head (ft)	Status (Initial)	Flow (gpm)	Pump Head (ft)	Status (Initial)	Flow (gpm)	Pump Head (ft)
2009	Corkscrew Shores MPS	169	Off	0	0	Off	0	0	On	746	132.4
1006	Grand East	44	Off	0	0	Off	0	0	Off	0	0
939	Wildcat Run	112	Off	0	0	On	624	46.6	Off	0	0
1000	Bella Terra	477	Off	0	0	On	527	96.47	On	399	123.91
2085	Wild Blue 1	182	Off	0	0	Off	0	0	Off	0	0
2092	Wild Blue 2		Off	0	0	Off	0	0	On	416	172.87
1082	Cork Preserve 1	115	Off	0	0	On	304	124.28	On	288	127.67
1081	Cork Preserve 2		Off	0	0	On	300	101.59	Off	0	0
2045	The Place MPS	345	Off	0	0	Off	0	0	Off	0	0
	Verdana Village	635		1058	247		635	171		635	207
	Totals	2079		1058			2390			2484	

ID	Label	60% Design Flow (gpm)	60% Run 3			60% Run 4		
			Status (Initial)	Flow (gpm)	Pump Head (ft)	Status (Initial)	Flow (gpm)	Pump Head (ft)
2009	Corkscrew Shores MPS	169	Off	0	0	Off	0	0
1006	Grand East	44	On	668	53.15	Off	0	0
939	Wildcat Run	112	On	613	47.13	On	632	46.19
1000	Bella Terra	477	On	643	72.12	On	543	93.06
2085	Wild Blue 1	182	Off	0	0	Off	0	0
2092	Wild Blue 2		Off	0	0	Off	0	0
1082	Cork Preserve 1	115	Off	0	0	Off	0	0
1081	Cork Preserve 2		Off	0	0	Off	0	0
2045	The Place MPS	345	Off	0	0	On	440	213.37
	Verdana Village	635		635	145		635	249.5
	Total	2079		2559			2250	

Pipe Velocity Verdana Only
Crokscrew Road Force Main System

ID	Label	gth (Scaled)	Diameter (in	Flow (gpm)	elocity (ft/s)
1305	DP-7720	103.9	8	0	0
1560	DP-7800	92.83	6	0	0
1565	DP-7823	98.56	9.9	0	0
1932	DP-7843	149.34	6	0	0
1931	DP-7844	163.96	6	0	0
1375	DP-PIN	42.75	8	0	0
1210	FP-7720	56.93	99	0	0
1559	FP-7800	83.01	99	0	0
1537	FP-7823	94.17	99	0	0
1930	FP-7843	122.43	99	0	0
1927	FP-7844	128.02	99	0	0
1376	FP-PIN	121.99	99	0	0
1972	P-8	3,327.65	11.7	1,058	3.16
1995	P-17	3,642.59	9.9	-1,058	4.42
1997	P-18	2,178.16	11.7	-1,058	3.16
1928	P-23	2,461.37	8	0	0
2010	P-24	207.12	8	0	0
2012	P-25	68.01	99	0	0
1933	P-26	2,504.63	6	0	0
2044	P-37	37.05	99	0	0
2047	P-38	54.84	9.9	0	0
2048	P-39	301.79	9.9	0	0
2051	P-40	59.87	9.9	0	0
2053	P-41	39.23	99	0	0
2058	P-42	33.9	10.3	-1,058	4.08
2059	P-43	12,593.62	9.9	-1,058	4.42
2062	P-44	34.72	16	1,058	1.69
2073	P-46	5,872.08	6.1	0	0
2075	P-47	1,780.05	6.1	0	0
2086	P-49	42.25	4	0	0
2088	P-50	55.27	99	0	0
2093	P-52	81.39	3.9	0	0
2095	P-53	63.01	99	0	0
2113	P-58	11,024.25	9.9	1,058	4.41
2116	P-60	5,584.39	6.1	0	0
2117	P-61	14.13	6	0	0
1304	P-7720a	3,993.56	8	0	0
1373	P-7720b	990.65	11.7	1,058	3.16
1561	P-7800a	446.08	6	0	0
1566	P-7823a	1,277.35	9.9	0	0
1463	P-7823b	1,867.57	11.7	1,058	3.16
1753	P-7823c	696.42	11.7	1,058	3.16
1759	P-7823i	3,174.33	11.7	1,058	3.16
1929	P-7843a	64.19	6	0	0
1374	P-PINa	533.12	11.7	0	0

Pipe Velocity Run 1
Crokscrew Road Force Main System

ID	Label	Length (Sc	Diameter (i	Flow (gpm)	Velocity (ft/	Headloss Gradient (ft/ft)	
1305	DP-7720	103.9	8	-624	3.98	0.043	
1560	DP-7800	92.83	6	0	0	0	
1565	DP-7823	98.56	9.9	527	2.2	0.014	
1932	DP-7843	149.34	6	300	3.41	0.037	
1931	DP-7844	163.96	6	304	3.45	0.038	
1375	DP-PIN	42.75	8	0	0	0	
1210	FP-7720	56.93	99	-624	0.03	0	
1559	FP-7800	83.01	99	0	0	0	
1537	FP-7823	94.17	99	527	0.02	0	
1930	FP-7843	122.43	99	300	0.01	0	
1927	FP-7844	128.02	99	304	0.01	0	
1376	FP-PIN	121.99	99	0	0	0	
1972	P-8	3,327.65	11.7	1,765	5.27	0.008	
1995	P-17	3,642.59	9.9	-634	2.65	0.003	
1997	P-18	2,178.16	11.7	-634	1.89	0.001	
1928	P-23	2,461.37	8	605	3.86	0.007	
2010	P-24	207.12	8	0	0	0	
2012	P-25	68.01	99	0	0	0	
1933	P-26	2,504.63	6	304	3.45	0.008	
2044	P-37	37.05	99	0	0	0	
2047	P-38	54.84	9.9	0	0	0	
2048	P-39	301.79	9.9	0	0	0	
2051	P-40	59.87	9.9	0	0	0	
2053	P-41	39.23	99	0	0	0	
2058	P-42	33.9	10.3	-634	2.44	0.011	
2059	P-43	12,593.62	9.9	-634	2.65	0.003	
2062	P-44	34.72	16	2,389	3.81	0.143	
2073	P-46	5,872.08	6.1	0	0	0	
2075	P-47	1,780.05	6.1	0	0	0	
2086	P-49	42.25	4	0	0	0	
2088	P-50	55.27	99	0	0	0	
2093	P-52	81.39	3.9	0	0	0	
2095	P-53	63.01	99	0	0	0	
2113	P-58	11,024.25	9.9	634	2.64	0.003	
2116	P-60	5,584.39	6.1	0	0	0	
2117	P-61	14.13	6	0	0	0	
1304	P-7720a	3,993.56	8	-624	3.98	0.008	
1373	P-7720b	990.65	11.7	2,389	7.13	0.015	Corkscrew Road prior to MPS
1561	P-7800a	446.08	6	0	0	0	
1566	P-7823a	1,277.35	9.9	527	2.2	0.002	
1463	P-7823b	1,867.57	11.7	1,161	3.46	0.004	
1753	P-7823c	696.42	11.7	1,765	5.27	0.009	
1759	P-7823i	3,174.33	11.7	1,765	5.27	0.009	
1929	P-7843a	64.19	6	300	3.41	0.016	
1374	P-PINa	533.12	11.7	0	0	0	

Pipe Velocity Run 2
Crokscrew Road Force Main System

ID	Label	Length (Sc	Diameter (i	Hazen-Will	Flow (gpm)	Velocity (ft/	Headloss Gradient (ft/ft)	
1305	DP-7720	103.9	8	130	0	0	0	
1560	DP-7800	92.83	6	130	0	0	0	
1565	DP-7823	98.56	9.9	130	399	1.66	0.008	
1932	DP-7843	149.34	6	130	0	0	0	
1931	DP-7844	163.96	6	130	288	3.27	0.034	
1375	DP-PIN	42.75	8	130	0	0	0	
1210	FP-7720	56.93	99	130	0	0	0	
1559	FP-7800	83.01	99	130	0	0	0	
1537	FP-7823	94.17	99	130	399	0.02	0	
1930	FP-7843	122.43	99	130	0	0	0	
1927	FP-7844	128.02	99	130	288	0.01	0	
1376	FP-PIN	121.99	99	130	0	0	0	
1972	P-8	3,327.65	11.70	130	2,057	6.14	0.011	Bend in Corkscrew
1995	P-17	3,642.59	9.90	130	-624	2.61	0.003	
1997	P-18	2,178.16	11.70	130	-1,370	4.09	0.005	
1928	P-23	2,461.37	8.00	130	288	1.84	0.002	
2010	P-24	207.12	8	130	746	4.76	0.016	
2012	P-25	68.01	99	130	-746	0.03	0	
1933	P-26	2,504.63	6.00	130	288	3.27	0.007	
2044	P-37	37.05	99	130	0	0	0	
2047	P-38	54.84	9.9	130	0	0	0	
2048	P-39	301.79	9.9	130	0	0	0	
2051	P-40	59.87	9.9	130	0	0	0	
2053	P-41	39.23	99	130	0	0	0	
2058	P-42	33.9	10.3	130	-624	2.4	0.011	
2059	P-43	12,593.62	9.90	130	-624	2.61	0.003	
2062	P-44	34.72	16	130	2,473	3.95	0.153	
2073	P-46	5,872.08	6.10	130	416	4.57	0.014	
2075	P-47	1,780.05	6.10	130	0	0	0	
2086	P-49	42.25	4	130	0	0	0	WildBlue header
2088	P-50	55.27	99	130	0	0	0	
2093	P-52	81.39	3.9	130	416	11.19	0.368	
2095	P-53	63.01	99	130	-416	0.02	0	
2113	P-58	11,024.25	9.90	130	624	2.6	0.003	
2116	P-60	5,584.39	6.10	130	-416	4.51	0.013	
2117	P-61	14.13	6	130	416	4.73	0.092	
1304	P-7720a	3,993.56	8.00	130	0	0	0	
1373	P-7720b	990.65	11.7	130	2,057	6.14	0.011	Corkscrew Road prior
1561	P-7800a	446.08	6	130	0	0	0	
1566	P-7823a	1,277.35	9.90	130	399	1.66	0.001	
1463	P-7823b	1,867.57	11.70	130	1,769	5.28	0.008	
1753	P-7823c	696.42	11.7	150	2,057	6.14	0.012	Corkscrew prior to ben
1759	P-7823i	3,174.33	11.70	130	2,057	6.14	0.012	Corkscrew after bend
1929	P-7843a	64.19	6	130	0	0	0	
1374	P-PINa	533.12	11.7	130	0	0	0	

Pipe Velocity Run 3
Crokscrew Road Force Main System

ID	Label	ngth (Scaled)	azen-Williams	Flow (gpm)	Velocity (ft/s)	Notes
1305	DP-7720	103.9	130	-613	3.91	
1560	DP-7800	92.83	130	668	7.57	
1565	DP-7823	98.56	130	643	2.68	
1932	DP-7843	149.34	130	0	0	
1931	DP-7844	163.96	130	0	0	
1375	DP-PIN	42.75	130	0	0	
1210	FP-7720	56.93	130	-613	0.03	
1559	FP-7800	83.01	130	668	0.03	
1537	FP-7823	94.17	130	643	0.03	
1930	FP-7843	122.43	130	0	0	
1927	FP-7844	128.02	130	0	0	
1376	FP-PIN	121.99	130	0	0	
1972	P-8	3,327.65	130	1,278	3.81	Bend in Corkscrew
1995	P-17	3,642.59	130	-635	2.65	
1997	P-18	2,178.16	130	-635	1.9	
1928	P-23	2,461.37	130	0	0	
2010	P-24	207.12	130	0	0	
2012	P-25	68.01	130	0	0	
1933	P-26	2,504.63	130	0	0	
2044	P-37	37.05	130	0	0	
2047	P-38	54.84	130	0	0	
2048	P-39	301.79	130	0	0	
2051	P-40	59.87	130	0	0	
2053	P-41	39.23	130	0	0	
2058	P-42	33.9	130	-635	2.45	
2059	P-43	12,593.62	130	-635	2.65	
2062	P-44	34.72	130	2,559	4.08	
2073	P-46	5,872.08	130	0	0	
2075	P-47	1,780.05	130	0	0	
2086	P-49	42.25	130	0	0	WildBlue header
2088	P-50	55.27	130	0	0	
2093	P-52	81.39	130	0	0	
2095	P-53	63.01	130	0	0	
2113	P-58	11,024.25	130	635	2.65	
2116	P-60	5,584.39	130	0	0	
2117	P-61	14.13	130	0	0	
1304	P-7720a	3,993.56	130	-613	3.91	
1373	P-7720b	990.65	130	2,559	7.64	Corkscrew Road prior to M
1561	P-7800a	446.08	130	668	7.57	
1566	P-7823a	1,277.35	130	643	2.68	
1463	P-7823b	1,867.57	130	1,278	3.81	
1753	P-7823c	696.42	150	1,278	3.81	Corkscrew prior to bend
1759	P-7823i	3,174.33	130	1,278	3.81	Corkscrew after bend
1929	P-7843a	64.19	130	0	0	
1374	P-PINa	533.12	130	0	0	

Pipe Velocity Run 4
Crokscrew Road Force Main System

ID	Label	ngth (Scaled)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Notes
1305	DP-7720	103.9	8	-632	4.03	
1560	DP-7800	92.83	6	0	0	
1565	DP-7823	98.56	9.9	543	2.26	
1932	DP-7843	149.34	6	0	0	
1931	DP-7844	163.96	6	0	0	
1375	DP-PIN	42.75	8	0	0	
1210	FP-7720	56.93	99	-632	0.03	
1559	FP-7800	83.01	99	0	0	
1537	FP-7823	94.17	99	543	0.02	
1930	FP-7843	122.43	99	0	0	
1927	FP-7844	128.02	99	0	0	
1376	FP-PIN	121.99	99	0	0	
1972	P-8	3,327.65	11.7	1,618	4.83	Bend in Corkscrew
1995	P-17	3,642.59	9.9	-1,075	4.49	
1997	P-18	2,178.16	11.7	-1,075	3.21	
1928	P-23	2,461.37	8	0	0	
2010	P-24	207.12	8	0	0	
2012	P-25	68.01	99	0	0	
1933	P-26	2,504.63	6	0	0	
2044	P-37	37.05	99	-440	0.02	
2047	P-38	54.84	9.9	440	1.84	
2048	P-39	301.79	9.9	440	1.84	
2051	P-40	59.87	9.9	0	0	
2053	P-41	39.23	99	0	0	
2058	P-42	33.9	10.3	-1,075	4.14	
2059	P-43	12,593.62	9.9	-1,075	4.49	
2062	P-44	34.72	16	2,250	3.59	
2073	P-46	5,872.08	6.1	0	0	
2075	P-47	1,780.05	6.1	0	0	
2086	P-49	42.25	4	0	0	WildBlue header
2088	P-50	55.27	99	0	0	
2093	P-52	81.39	3.9	0	0	
2095	P-53	63.01	99	0	0	
2113	P-58	11,024.25	9.9	635	2.65	
2116	P-60	5,584.39	6.1	0	0	
2117	P-61	14.13	6	0	0	
1304	P-7720a	3,993.56	8	-632	4.03	
1373	P-7720b	990.65	11.7	2,250	6.71	Corkscrew Road prior to M
1561	P-7800a	446.08	6	0	0	
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1929	P-7843a	64.19	6	0	0	
1374	P-PINa	533.12	11.7	0	0	

LIMITED REVIEW DEVELOPMENT ORDER PLANS FOR

VERDANA VILLAGE OFFSITE IMPROVEMENTS

LOCATED IN LEE COUNTY, FLORIDA

SECTION 29, 30, 31 AND 32 TOWNSHIP 46 SOUTH, RANGE 27 EAST

ENGINEER OF RECORD COPY

APPROVED BY LEE COUNTY UTILITIES
DATE: 3/10/20 BY
COMMENTS:

A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO ANY UTILITY CONSTRUCTION.

REVISED

DEVELOPED BY

PROPERTY OWNER

TPL - LAND - SUB, LLC
4954 ROYAL GULF CIRCLE
FORT MYERS, FL 33966
(239) 425-8662

DEVELOPED BY

CAM VILLAGE DEVELOPMENT, LLC
4954 ROYAL GULF CIRCLE
FORT MYERS, FLORIDA 33966
PHONE: (239) 425-8662

PROPERTY INFORMATION

SITE ADDRESS

19500 CORKSCREW ROAD
ESTERO, FL 33928

FOLIO NUMBERS

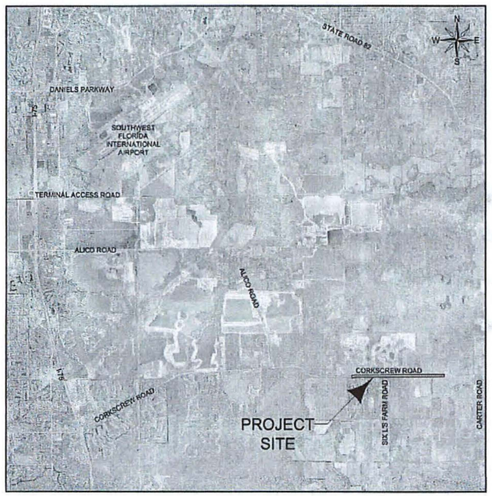
29-46-27-00-00001.0000
30-46-27-00-00001.0000
31-46-27-00-00001.1000
32-46-27-00-00001.0000
32-46-27-00-00001.1000

FLOOD ZONE

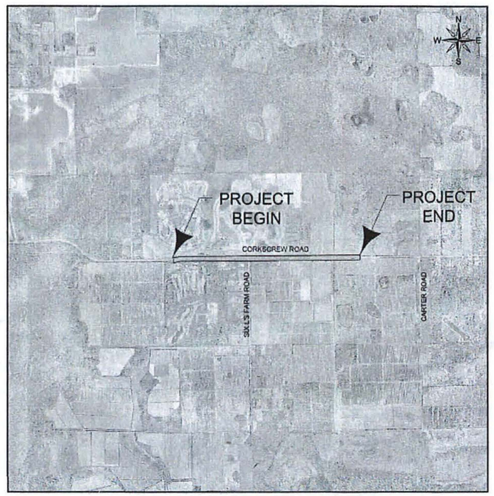
ACCORDING TO THE FLOOD INSURANCE RATE MAP NO. 12071C0625F (PANEL NOT PRINTED), EFFECTIVE DATE: AUGUST 28, 2008, THE PROPERTY IS LOCATED IN "NO SPECIAL FLOOD HAZARD AREA".

ZONING

-



VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.

INDEX OF SHEETS

EXHIBIT "C"
UTILITY EXTENSIONS

LCU2018-10008

DATUM NOTE:

ALL ELEVATIONS REFERENCE NAVD88 VERTICAL DATUM.
APPROXIMATE CONVERSION FOR PROJECT AREA: NAVD88 + 1.17' = NGVD29
ANY DATUM CONVERSIONS SHOULD BE CONFIRMED BY A LICENSED SURVEYOR PRIOR TO USE.

J.R. EVANS ENGINEERING, P.A.
9351 CORKSCREW ROAD, SUITE 102
ESTERO, FLORIDA 33928
PHONE: (239) 405-9148
FAX: (239) 288-2537
WWW.JREVANSENGINEERING.COM

J.R. EVANS ENGINEERING

VERDANA VILLAGE OFF-SITE IMPROVEMENTS

COVER

#	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER

1ST SUBMITTAL (JAN 2020)

BRANDON M. FREY, LICENSE No 86651 * STATE OF FLORIDA PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86651
FL. COA # 29226

PROJECT #: 00450-12

SHEET: 01

GENERAL NOTES

1. ALL INVERTS AND ELEVATIONS REFERENCE NAVD-88 VERTICAL DATUM.
2. THE HOME OWNER'S ASSOCIATION, ITS SUCCESSORS AND/OR ASSIGNS SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE SURFACE WATER MANAGEMENT SYSTEM, OPEN SPACE AND COMMON AREAS AND PRIVATE STREETS WITHIN THE PROPERTY BOUNDARY.
3. ALL STREETS INTERNAL TO THE PROPERTY BOUNDARY SHALL BE PRIVATELY OWNED AND MAINTAINED.
4. CONTRACTOR SHALL MAINTAIN COPIES OF ALL PERMITS REQUIRED FOR CONSTRUCTION ON-SITE.
5. PROJECT AREA IS LOCATED WITHIN SPECIAL FLOOD HAZARD AREA "X" AND "AE" AS IDENTIFIED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ISSUED FLOOD MAPS.
6. THE REVIEW AND APPROVAL OF THESE IMPROVEMENT PLANS DOES NOT AUTHORIZE THE CONSTRUCTION OF REQUIRED IMPROVEMENTS WHICH ARE INCONSISTENT WITH EXISTING EASEMENTS OF RECORD.
7. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY.
8. FLORIDA POWER AND LIGHT AND LEE COUNTY ELECTRIC COOPERATIVE (LCEC), CENTURYLINK, COMCAST, TECO AND/OR OTHERS MAY HAVE EXISTING UTILITIES ADJACENT TO THIS PROPOSED CONSTRUCTION. CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITIES AND SUNSHINE ONE CALL TO VERIFY LOCATION OF ALL EXISTING FACILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
9. THE LOCATION OF EXISTING UTILITIES AND STORM SEWER SHOWN WITHIN THESE CONSTRUCTION DOCUMENTS HAVE BEEN PREPARED FROM AVAILABLE RECORD AND SURVEY INFORMATION, AND THESE DRAWINGS ARE NOT INTENDED TO BE INCLUSIVE OF ALL EXISTING UTILITIES AND/OR OTHER INFRASTRUCTURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATIONS PRIOR TO CONSTRUCTION AND PROVIDE IN WRITING ANY DISCREPANCIES TO THE DESIGNER OR ENGINEER OF RECORD. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE ANY INFRASTRUCTURE DAMAGED DURING CONSTRUCTION (WHICH ARE INTENDED TO REMAIN) TO EXISTING CONDITIONS OR BETTER.
10. THE CONTRACTOR SHALL ACCURATELY PLOT THE LOCATIONS AND DEPTHS OF ALL IMPROVEMENTS INSTALLED ON A FINAL SET OF RECORD DRAWINGS WHICH SHALL BE DELIVERED TO THE ENGINEER.
11. CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN APPROVAL FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS FROM THE ENGINEER AND OWNER. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL TREES, BRUSH, STUMPS, DEBRIS AND EXISTING INFRASTRUCTURE NOT REQUIRED TO REMAIN IN THE PROPOSED CONSTRUCTION AREA.
13. WHERE SO DIRECTED BY THE OWNER, TREES AND VEGETATION WITHIN THE CLEARING LIMITS MAY BE PROTECTED, LEFT STANDING, AND TRIMMED TO PREVENT DAMAGE TO LIMBS AND ROOTS DURING CONSTRUCTION. SPECIFIC AREAS WHERE VEGETATION IS DESIRED TO BE MAINTAINED MAY BE NOTED ON PLANS, BUT CONTRACTOR SHALL VERIFY WITH OWNER PRIOR TO CLEARING ANY EXISTING VEGETATION (OTHER THAN EXOTICS) WHERE LOCATED IN A COMMON AREA (I.E. NOT WITHIN R.O.W., LOT BOUNDARIES, LAKE BOUNDARIES, ETC.).
14. ALL MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF BY THE CONTRACTOR IN A LEGAL MANNER.
15. ALL EXOTIC VEGETATION AS DEFINED BY LEE COUNTY LAND DEVELOPMENT CODE SHALL BE REMOVED FROM THE SITE AND THE DEVELOPER, ITS SUCCESSORS AND ASSIGNS (E.G. HOME OWNER'S ASSOCIATION) SHALL BE RESPONSIBLE FOR SUBSEQUENT ANNUAL EXOTIC REMOVAL.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND USAGE OF THE EXISTING STREETS ADJACENT TO THE PROJECT. ALL TRAFFIC MAINTENANCE CONTROL SHALL BE IN ACCORDANCE WITH FEDERAL HIGHWAY ADMINISTRATION'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY APPLICABLE FDOT STANDARD SPECIFICATIONS AND INDEXES. TRAFFIC CONTROL OPERATION PROCEDURES SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
17. EXISTING REFERS TO FACILITIES AND/OR PROJECTS EITHER PREVIOUSLY CONSTRUCTED OR TO BE CONSTRUCTED UNDER SEPARATE PERMIT OR DEVELOPMENT ORDER.
18. "FUTURE" REFERS TO FACILITIES AND/OR PROJECTS TO BE CONDUCTED UNDER SEPARATE PERMIT OR DEVELOPMENT ORDER.
19. INSTALLATION OF SUBSURFACE CONSTRUCTION LOCATED BENEATH PROPOSED ROADWAYS, INCLUDING BUT NOT LIMITED TO WATER AND IRRIGATION LINES, SEWER LINES, PUBLIC UTILITIES AND STORM DRAINAGE IS REQUIRED PRIOR TO COMPACTION OF SUBGRADE AND ROADWAY CONSTRUCTION.
20. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A BLASTING PERMIT, IF REQUIRED.
21. ANY ENTRANCE AND EXIT GATES SHALL BE EQUIPPED WITH EVAC / SOS GATES APPROVED BY BOTH SOUTH TRAIL FIRE AND RESCUE AND LEE COUNTY SHERIFF.
22. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DEVIATION IN PLAN INFORMATION SHALL BE REPORTED TO THE ENGINEER AND OWNER'S REPRESENTATIVE IMMEDIATELY.
23. THESE CONSTRUCTION DOCUMENTS ARE NOT INTENDED TO BE ALL INCLUSIVE OF EXISTING FACILITIES OR MATERIALS TO BE REMOVED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTING CONDITIONS WITH REGARD TO THE SITE MODIFICATIONS NECESSARY TO ACCOMMODATE THE PROPOSED IMPROVEMENTS.
24. CODE MINIMUM LANDSCAPING AND IRRIGATION FOR COMMON AREAS SHALL BE INSTALLED PRIOR TO LEE COUNTY ACCEPTANCE.
25. ALL ITEMS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE INCLUDED AT THE EXPENSE OF THE CONTRACTOR, INCLUDING REMOVAL AND DUMPING FEES, MATERIALS, LABOR, ETC., ASSOCIATED WITH THE RESTORATION. ALL MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF BY THE CONTRACTOR IN A LEGAL MANNER.
26. WATER AND SEWER SERVICE FOR THE OVERALL PROJECT IS CURRENTLY PROVIDED BY AND/OR WILL BE PROVIDED BY LEE COUNTY UTILITIES.
27. ALL MATERIALS AND CONSTRUCTION METHODS USED FOR THE PROPOSED IMPROVEMENTS SHALL CONFORM TO THE APPROVED TECHNICAL SPECIFICATIONS PROVIDED BY THE DESIGNER OR ENGINEER OF RECORD AND UTILITY PROVIDER, AND ALL FEDERAL, STATE AND LOCAL REGULATIONS.
28. ALL HANDICAP RAMPS SHALL BE CONSTRUCTED TO MEET ADA (AMERICANS WITH DISABILITIES ACT) GUIDELINES, AND SHALL BE INSTALLED IN ACCORDANCE WITH FOOT INDEX 304.
29. ANY VALLEY GUTTER ACROSS HANDICAP RAMPS SHALL BE 3' WIDE VALLEY CROSSING.
30. REINFORCED CONCRETE PIPE SHALL MEET THE REQUIREMENTS OF ASTM DESIGNATION C76, CLASS III, WALL THICKNESS B, UNLESS OTHERWISE NOTED. WHERE TOP OF PIPE EXTENDS INTO ROADWAY SUBGRADE, CLASS IV RCP SHALL BE USED.
31. THE FIRE PROTECTION WATER SUPPLY INCLUDING FIRE HYDRANTS, SHALL BE INSTALLED AND OPERABLE PRIOR TO PLACING COMBUSTIBLE MATERIALS ON SITE. FIRE HYDRANTS SHALL BE MARKED IN A UNIFORM MANNER, IN ACCORDANCE WITH NFPA 291.
32. ALL CATCH BASIN OPENINGS, WHERE APPROPRIATE, SHALL BE COVERED WITH FILTER FABRIC (MIRAFI 140N OR APPROVED EQUAL) TO PREVENT DEBRIS AND FILL FROM FALLING INTO THE INLET DURING THE COURSE OF CONSTRUCTION.
33. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.

RIP-RAP & STABILZATION NOTES

1. ALL RIP-RAP SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 530. PROVIDE MINIMUM 18" THICK BLANKET OF RIPRAP PER FDOT SECTION 530-2.1.3.2 RUBBLE (DITCH LINING).
2. ALL SLOPES GREATER THEN 3:1 SHALL BE REINFORCED WITH RIP-RAP OR SIMILAR.

LEE COUNTY UTILITY NOTES

1. ALL WORK SHALL CONFORM TO LATEST REVISION OF THE LEE COUNTY UTILITIES OPERATIONAL MANUAL WHICH IS ON FILE AT THE DIVISION OF LEE COUNTY UTILITIES OFFICE (1500 MONROE STREET, FORT MYERS, FLORIDA 33901).
2. ANY QUANTITIES SHOWN ON PLANS ARE NOT VERIFIED BY LCU.
3. AT THE SITE KEEP AND MAINTAIN ONE RECORD COPY OF ALL CONTRACT DOCUMENTS, REFERENCE DOCUMENTS AND ALL TECHNICAL DOCUMENTS SUBMITTED IN GOOD ORDER. AS THE WORK PROGRESSES THE ENGINEER OR HIS DESIGNATED REPRESENTATIVE SHALL RECORD ON ONE SET OF REPRODUCIBLE DRAWINGS ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL PLANS. HE SHALL RECORD THE EXACT LOCATION OF ALL CHANGES IN VERTICAL AND HORIZONTAL ALIGNMENT BY OFFSETS AND TIES AT EACH; SEWER, WATER, ELECTRIC, GAS, COMMUNICATION AND OTHER SERVICES BY OFF-SET DISTANCE TO PERMANENT IMPROVEMENTS SUCH AS BUILDING AND CURBS.

   THESE RECORD DRAWINGS MUST BE CERTIFIED BY THE FLORIDA REGISTERED PROFESSIONAL ENGINEER, WHO PREPARED THE PLANS AND SIGNS AND SEALS THESE PLANS. THE RECORD DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL ALIGNMENT OF ALL WATER, SEWER, AND EFFLUENT REUSE LINES, VALVES, TEES, BENDS, REDUCERS, HYDRANTS, PUMP STATIONS, SERVICE CONNECTIONS, METER BOXES AND/OR PADS, AND OTHER PERTINENT STRUCTURES. PIPELINE RUNS IN EXCESS OF 152.4M, (500'), WITHOUT FITTINGS SHALL INCLUDE VERTICAL ALIGNMENT INFORMATION AT 152.4M, (500') INTERVALS. SAID ALIGNMENT SHALL BE TIED TO PERMANENT IMPROVEMENTS, SUCH AS ROADWAY AND/OR RAILROAD CENTERLINES AND RIGHTS-OF-WAY, BUILDING AND PROPERTY CORNERS, AND SHALL BE CERTIFIED BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF FLORIDA. THE PROFESSIONAL LAND SURVEYOR CAN COORDINATE WITH THE CONTRACTOR TO INSTALL THE NECESSARY APPURTENANCES ON BURIED UTILITIES TO FACILITATE THE SURVEY AFTER CONSTRUCTION IS COMPLETED. IN ADDITION, PROPERTY STRAP NUMBERS AND STREET NAMES SHALL BE SHOWN ON THE PLAN.

   ON A CASE BY CASE BASIS, LEE COUNTY UTILITIES MAY WAIVE THE REQUIREMENT FOR CERTIFICATION BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF FLORIDA. HOWEVER, PRIOR CONSENT MUST FIRST BE OBTAINED FROM LEE COUNTY UTILITIES. THE COUNTY SHALL WITHHOLD FINAL ACCEPTANCE OF THE PROJECT UNTIL THE REQUIREMENT FOR RECORD DRAWINGS AND RELATED RECORDS HAS BEEN MET. RECORD DRAWINGS WITHOUT DETAILED FIELD VERIFIED HORIZONTAL AND VERTICAL LOCATIONS OF ALL FACILITIES SHOWN WILL BE REJECTED.
4. A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE WORK MAY BEGIN. LEE COUNTY UTILITIES SHALL BE NOTIFIED 48 HOURS PRIOR TO PROJECT MOBILIZATION.
5. ALL WORK AND MATERIALS, WHICH DO NOT CONFORM TO LCU SPECIFICATIONS, ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
6. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF LCU IS SUBJECT TO RE-EXCAVATION, REMOVAL AND REPLACEMENT OF SAME TO BE DONE AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL PROVIDE SUFFICIENT PERSONNEL AND EQUIPMENT ON THE JOB AT ALL TIMES DURING CONSTRUCTION TO SATISFY THE SPECIFICATIONS AND TO COMPLETE WORK.
8. LCU INSPECTION STAFF MAY OBSERVE PROJECT CONSTRUCTION.
9. THE CONTRACTOR IS TO UNCOVER ALL EXISTING LINES BEING TIED INTO AND VERIFY GRADES BEFORE BEGINNING CONSTRUCTION.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND TAKE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO ALL UNDERGROUND PIPELINES, TELEPHONE, CABLE TV, ELECTRIC LINES/CONDUITS AND STRUCTURES IN ADVANCE OF ANY CONSTRUCTION. LCU WILL NOT GUARANTEE ANY LOCATIONS AS SHOWN ON THESE PLANS OR THOSE OMITTED FROM THESE PLANS. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PROTECT EXISTING UTILITIES AND STRUCTURES.
11. CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANS. IF ANY DISCREPANCIES IN QUANTITIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND LCU.
12. ALL REGULATORY AND PERMITTING AGENCIES REQUIREMENTS SHALL BE COMPLIED WITH.
13. APPROPRIATE TURBIDITY CONTROL DEVICES (E.G. SILT FENCES, HAY BAILS) SHALL BE UTILIZED DURING ALL PHASES OF INSTALLATION AND GRADING. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE NOTICE OF INTENT AND NOTICE OF TERMINATION TO THE EPA IN COMPLIANCE WITH LEE COUNTY'S NPDES PERMIT. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORM WATER POLLUTION PREVENTION PLAN.
14. IN THE EVENT THAT HARD LIMESTONE FORMATION IS ENCOUNTERED, MAKING IT IMPOSSIBLE TO EXCAVATE TO THE DEPTH REQUIRED UNDER THIS CONTRACT, THE CONTRACTOR MAY BE ALLOWED TO REDUCE THE PIPE COVER TO NOT LESS THAN TWO (2) FEET WHILE MAINTAINING THE LCU REQUIRED THICKNESS OF BEDDING UNDER THE PIPE. SUCH DEVIATION FROM THE PLANS MUST BE FIRST BE APPROVED BY LCU AND THE ENGINEER PRIOR TO THE PIPE LAYING. IF TWO FEET OF COVER OR MORE CANNOT BE ATTAINED, THE CONTRACTOR SHALL PROVIDE OTHER METHOD OF CONSTRUCTION OR PIPE PROTECTION WHICH SHALL FIRST BE APPROVED BY LCU AND THE ENGINEER, AT NO ADDITIONAL COST TO THE COUNTY.
15. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES AFFECTING HIS WORK. ANYTHING NOT SHOWN ON THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND SHALL NOT CONSTITUTE AN EXTRA, UNLESS APPROVED BY THE ENGINEER.
16. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND LCU IMMEDIATELY CONCERNING ANY CONFLICTS WITH LCU UTILITIES/STRUCTURES ARISING DURING CONSTRUCTION OF ANY FACILITIES SHOWN ON THESE DRAWINGS.
17. TRAFFIC MUST BE MAINTAINED AT ALL TIMES AS PER LEE COUNTY DEPARTMENT OF TRANSPORTATION (LCDOT) AND PER FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
18. THE CONTRACTOR SHALL VERIFY ALL UTILITIES AND PROVIDE AT LEAST 48 HOURS NOTICE TO THE INDIVIDUAL UTILITY COMPANIES AND FDOT AND LCDOT PRIOR TO CONSTRUCTION.
19. THE CONTRACTOR SHALL REPLACE ALL PAVEMENT, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, ETC., WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL AREAS AFFECTED BY THE CONSTRUCTION TO ITS ORIGINAL CONDITION, OR BETTER.
20. WITHIN THE FDOT AND LCDOT RIGHT-OF-WAY, ALL DISTURBED AREAS SHALL RECEIVE GRASSING (SEEDING) OR SODDING MATERIALS IN ACCORDANCE WITH FDOT SPECIFICATIONS. THOSE AREAS THAT ARE CLASSIFIED AS DRAINAGE DITCHES SHALL RECEIVE FULL SOLID SOD.
21. ALL FRAMES, COVERS, VALVE BOXES, METER BOXES, AND MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE UPON COMPLETION OF PAVING OR RELATED CONSTRUCTION. ALL VALVE PADS SHALL BE POURED IN PLACE. NO PRE-FORMED VALVE PADS ALLOWED.
22. AT THE TIME OF DEVELOPMENT ORDER A TALL STRUCTURES PERMIT IS NOT REQUIRED SINCE NO STRUCTURE OR CONSTRUCTION EQUIPMENT IS ANTICIPATED TO BE GREATER THAN 60 FEET ABOVE GROUND LEVEL / 70 FEET ABOVE MEAN SEA LEVEL. IF THE PLANS CHANGE AND IT IS REQUIRED TO GO 60 FEET BEYOND GROUND LEVEL AT THE TIME OF CONSTRUCTION, THE DEVELOPER WILL BE RESPONSIBLE FOR COORDINATION WITH THE LEE COUNTY PORT AUTHORITY AND OBTAINING A TALL STRUCTURES PERMIT.

HORIZONTAL SEPARATION NOTES

1. MAINTAIN 5' MINIMUM HORIZONTAL SEPARATION BETWEEN LIGHT POLES AND ALL LEE COUNTY UTILITY INFRASTRUCTURE.
2. MAINTAIN 2' MINIMUM SEPARATION BETWEEN FIRE HYDRANTS AND EDGE OF SIDEWALK. IF NECESSARY, SIDEWALK SHALL BE SHIFTED TOWARD ROADWAY AT FIRE HYDRANT TO PROVIDE REQUIRED SEPARATION. CONTRACTOR IS RESPONSIBLE FOR ENSURING REQUIRED SEPARATION IS PROVIDED.
3. ANY GATE VALVES OR BOX LOCATED WITHIN SIDEWALKS SHALL BE SET PLUMB TO GRADE SO AS NOT TO PRESENT A TRIP HAZARD AS DETERMINED BY THE A.D.A. STANDARDS FOR ACCESSIBLE DESIGN. CONTRACTOR IS RESPONSIBLE FOR ENSURING NO TRIP HAZARD IS PRESENT, AND SHALL REINSTALL VALVE BOX AND/OR SIDEWALK IF REQUIRED TO REMEDY ANY ISSUES PRESENT AFTER INITIAL INSTALLATION.

ADDITIONAL UTILITY NOTES

1. STATIONING GENERALLY BASED ON ℄ RIGHT-OF-WAY. IN CERTAIN INSTANCES, STATIONING IS CENTERED ON SPECIFIC PIPE RUNS.
2. TEMPORARY BACKFLOW DEVICE MAY BE NECESSARY AT OPTION OF FIRE DISTRICT.
3. WHEN DEFLECTING WATER MAIN, DO NOT EXCEED 80% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM RATE OF DEFLECTION.
4. ALL WATER SERVICE SLEEVES SHALL BE 4" PVC W/24" COVER BASED ON FINISH GRADE. (SEE DETAIL).
5. ALL CONDUITS FOR OTHER UTILITIES SHALL BE PLACED A MINIMUM OF 18" VERTICAL SEPARATION AND 5' HORIZONTAL SEPARATION FROM POTABLE WATER, FORCE MAINS & SANITARY SEWER.
6. ALL CONDUITS AND CASINGS SHALL EXTEND 5 FEET BEYOND THE EDGE OF PAVEMENT, BACK OF CURB OR BACK OF SIDEWALK AT EACH END.
7. WATER MAINS AND GRAVITY SEWER SYSTEM WITHIN THE R.O.W. OR DESIGNATED LEE COUNTY UTILITY EASEMENTS SHALL BE OWNED AND MAINTAINED BY LEE COUNTY UTILITIES.
8. CONTRACTOR SHALL REFERENCE THE LEE COUNTY UTILITIES OPERATIONS / DESIGN MANUAL (LATEST APPROVED EDITION) FOR DETAILS AND SPECIFICATIONS FOR CONSTRUCTION OF ALL POTABLE WATER, FIRE AND WASTEWATER UTILITIES FOR THIS PROJECT.
9. APPROVED FITTINGS SHALL BE USED TO MAINTAIN PLAN ALIGNMENT OF PROPOSED POTABLE WATER, FIRE, AND SANITARY SEWER MAINS. DEVIATION FROM PLAN ALIGNMENT SHALL BE NOT MORE THAN 12±" FROM PLAN CENTERLINE OF MAIN. CONTRACTOR SHALL PREPARE RECORD DRAWINGS OF ALL FITTINGS.
10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE MINIMUM COVER OF ALL PROPOSED MAINS, REGARDLESS OF EXISTING GRADE. COVER FOR MAINS AND PVC WATER CASINGS SHALL BE A MINIMUM OF 30 INCHES EXCEPT UNDER PAVEMENT, WHERE THE MINIMUM COVER IS 36 INCHES MEASURED FROM FINAL FINISHED GRADE TO TOP OF PIPE UNLESS OTHERWISE NOTED. COVER FOR GRAVITY SEWER PIPES SHALL BE A MINIMUM OF 48 INCHES FROM FINAL FINISHED GRADE TO TOP OF PIPE.
11. CONTRACTOR SHALL CONSTRUCT ALL PROPOSED POTABLE WATER, FIRE AND WASTEWATER APPURTENANCES INCLUDING METER BOXES, BLOW-OFFS, VALVE BOXES, AIR RELEASE VALVES, FIRE HYDRANTS, ETC. TO FINISHED GRADE. CONTRACTOR SHALL COORDINATE DURING THE CONSTRUCTION STAKEOUT AND PRIOR TO CONSTRUCTION OF SAID APPURTENANCES WITH OWNER AND ENGINEER REGARDING FINISHED GRADE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION OF SAID APPURTENANCES ARE SET TO FINISHED GRADE.
12. CONTRACTOR SHALL INSTALL METALIZED IDENTIFICATION TAPE BURIED APPROXIMATELY 12" ABOVE ANY PROPOSED PVC PIPE PER LEE COUNTY UTILITIES OPERATIONS / DESIGN MANUAL (LATEST APPROVED EDITION).
13. CONTRACTOR SHALL INSTALL ELECTRONIC BALL MARKERS FOR ANY PROPOSED PVC PIPE PER LEE COUNTY UTILITIES OPERATIONS / DESIGN MANUAL (LATEST APPROVED EDITION).
14. ALL PRIMARY ELECTRIC SERVICE UTILITIES AND FACILITIES SHALL BE OWNED AND MAINTAINED BY FLORIDA POWER & LIGHT (FPL), ITS SUCCESSORS AND ASSIGNS.
15. FIRE HYDRANTS SHALL NOT BE OBSTRUCTED VISUALLY OR FUNCTIONALLY BY VEGETATION. A MINIMUM CLEARANCE OF 7.5 FEET TO EACH SIDE AND 5' TO THE REAR SHALL BE MAINTAINED.
16. DO NOT TIE WATER MAINS IN UNTIL LINES HAVE BEEN CLEARED.
17. THE WATER MAIN TAP, SLEEVE, POLYTUBING, METER BOX, ETC. SHALL BE CONSTRUCTED BY THE SITE CONTRACTOR AT TIME OF WATER MAIN INSTALLATION.
18. PRIOR TO THE ACCUMULATION OF COMBUSTIBLE BUILDING MATERIALS ON SITE, PROPOSED FIRE HYDRANTS MUST BE OPERABLE AND BE ABLE TO PROVIDE THE MINIMUM REQUIRED FIRE FLOWS, AND IMPROVED STABILIZED EMERGENCY APPARATUS ACCESS WAYS (MIN 20-FEET WIDE) MUST BE AVAILABLE TO WITHIN 100-FEET OF STRUCTURES, AND SHALL BE MARKED IN A UNIFORM MANNER IN ACCORDANCE WITH NFPA 291.
19. BACK FLOW PREVENTOR TO BE INSTALLED PRIOR TO ISSUANCE OF CERTIFICATION OF OCCUPANCY FOR EACH HOME

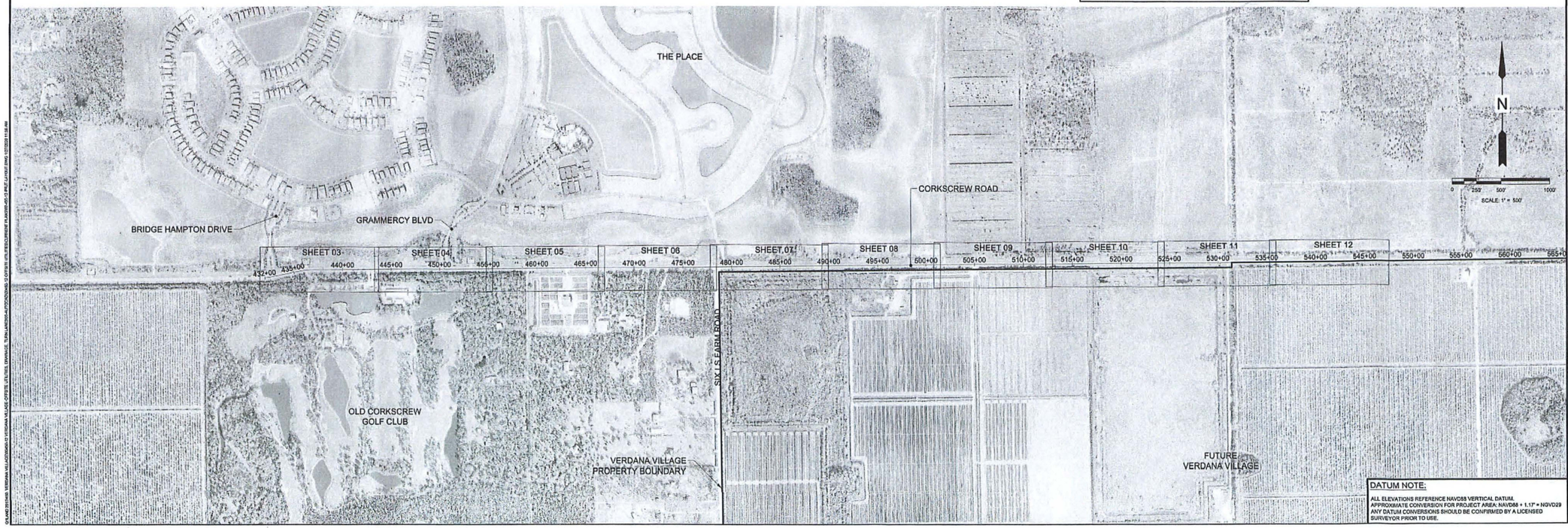
UTILITY SPECIFICATION NOTES

1. POLYVINYL CHLORIDE PIPE (PVC) WATER MAINS 4"-12" NOT LOCATED UNDER PAVEMENT SHALL BE C-900, DR 18, CLASS 150.
2. WATER MAINS LARGER THAN 12" AND ALL MAINS LOCATED UNDER PAVEMENT (EXTENDING MINIMUM 5' PAST PAVEMENT) SHALL BE DUCTILE IRON PIPE (D.I.P.) CL50 OR PRESSURE CLASS 250.
3. PVC WATER MAINS LESS THAN 4" SHALL BE SCHEDULE 80 WITH A PRESSURE RATING OF 200.
4. WATER SERVICE TUBING SHALL BE POLYETHYLENE, PE3408 (AWWA C-901, SDS 9-200) AND BLUE COLOR.
5. ALL GRAVITY SEWER PIPE SHALL COMPLY WITH ASTM D3034, MINIMUM WALL THICKNESS SDR 26.
6. PVC WASTEWATER FORCE MAINS 4"-12" NOT LOCATED UNDER PAVEMENT SHALL BE C-900, DR 18.
7. PVC WASTEWATER FORCE MAINS 4"-12" LOCATED UNDER PAVEMENT SHALL BE C-900, DR 14.
8. FIRE HYDRANT ASSEMBLIES SHALL CONFORM TO AWWA C-502 (DRY BARREL) STANDARDS.
9. BACKFLOW PREVENTER ASSEMBLIES SHALL CONFORM TO AWWA M-14 STANDARDS.
10. ALL COLD WATER METERS DISPLACEMENT TYPE, BRONZE MAIN CASE, SIZE 1/2 INCH THROUGH 2 INCH SHALL MEET THE REQUIREMENTS OF AWWA C-700.
11. ALL WATER METER COMPONENTS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM WITH NSF STANDARD 61.
12. PVC AND HDPE MAINS AND SERVICES SHALL BE COLOR-CODED PER LEE COUNTY UTILITIES OPERATIONS / DESIGN MANUAL, OR IF NOT SPECIFIED THEREIN PER THE BELOW:

WATER (POTABLE AND FIRE)	FEDERAL SAFETY BLUE
SANITARY SEWER (GRAVITY AND FORCE MAIN)	FEDERAL SAFETY GREEN
NON-POTABLE IRRIGATION WATER	PANTONE PURPLE
RAW WATER MAIN	WHITE

ACRONYM LEGEND

DE	DRAINAGE EASEMENT	INV	INVERT
LBE	LANDSCAPE BUFFER EASEMENT	EOP	EDGE OF PAVEMENT
PUE	PUBLIC UTILITY EASEMENT	TYP	TYPICAL
CUE	COUNTY UTILITY EASEMENT	FPL	FLORIDA POWER AND LIGHT
AE	ACCESS EASEMENT	FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
OR	OFFICE RECORDS BOOK	BSP	BACTERIAL SAMPLE POINT
ROW	RIGHT-OF-WAY		
W/	WITH		
EX	EXISTING		



DATUM NOTE:

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APPROXIMATE CONVERSION FOR PROJECT AREA: NAVD88 + 1.17' = NGVD29
ANY DATUM CONVERSIONS SHOULD BE CONFIRMED BY A LICENSED SURVEYOR PRIOR TO USE.

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WWW.JREVANSENGINEERING.COM

J.R. EVANS ENGINEERING

VERDANA VILLAGE OFF-SITE IMPROVEMENTS

PROJECT LAYOUT & GENERAL NOTES

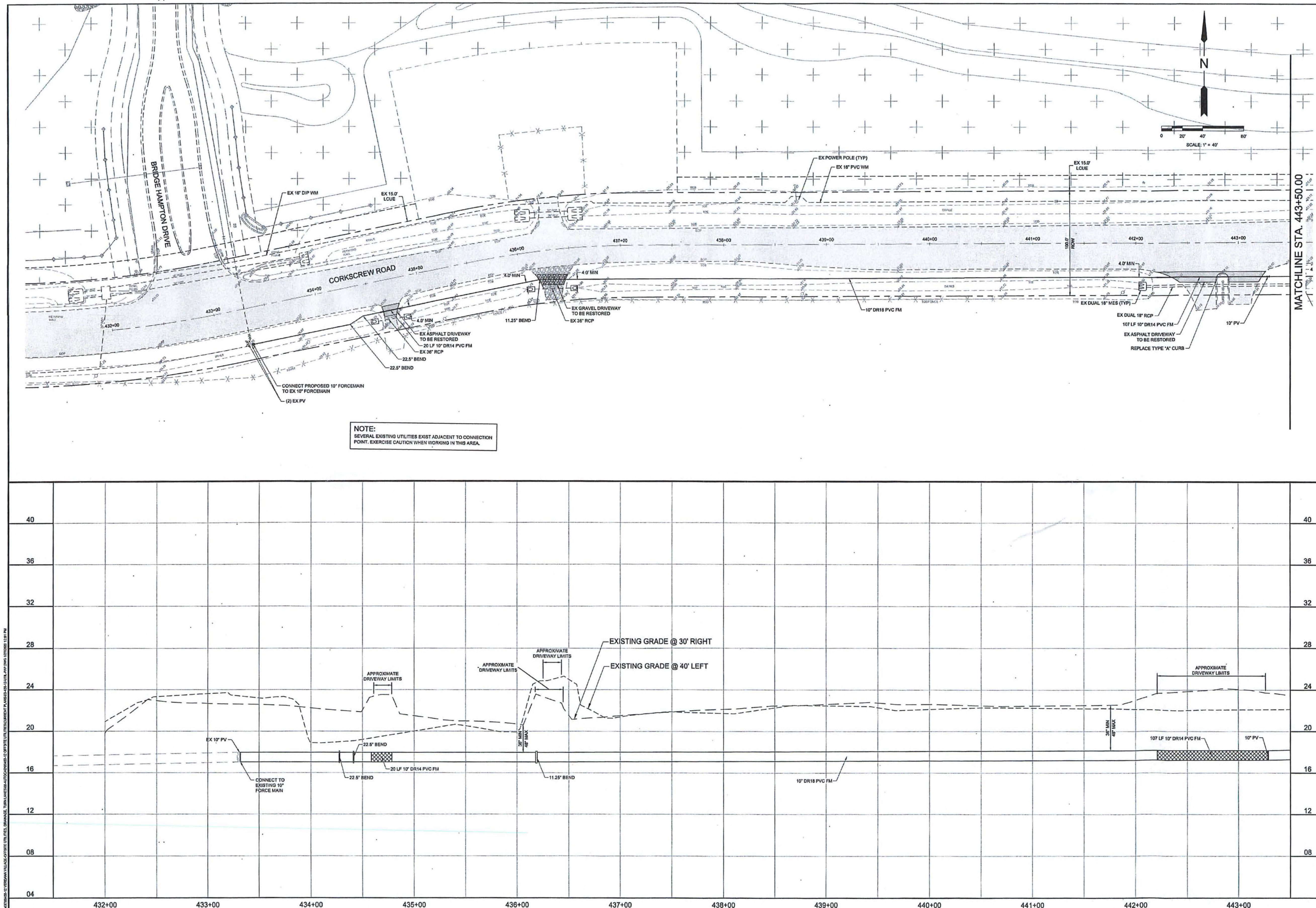
*	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER

1ST SUBMITTAL (JAN-2020)

BRANDON M. FREY, LICENSE No 86651, STATE OF FLORIDA, PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86051
FL. COA # 29228

PROJECT #: 00450-12
SHEET: 02



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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

UTILITY PLAN AND PROFILE STA. 432+00 TO 443+50

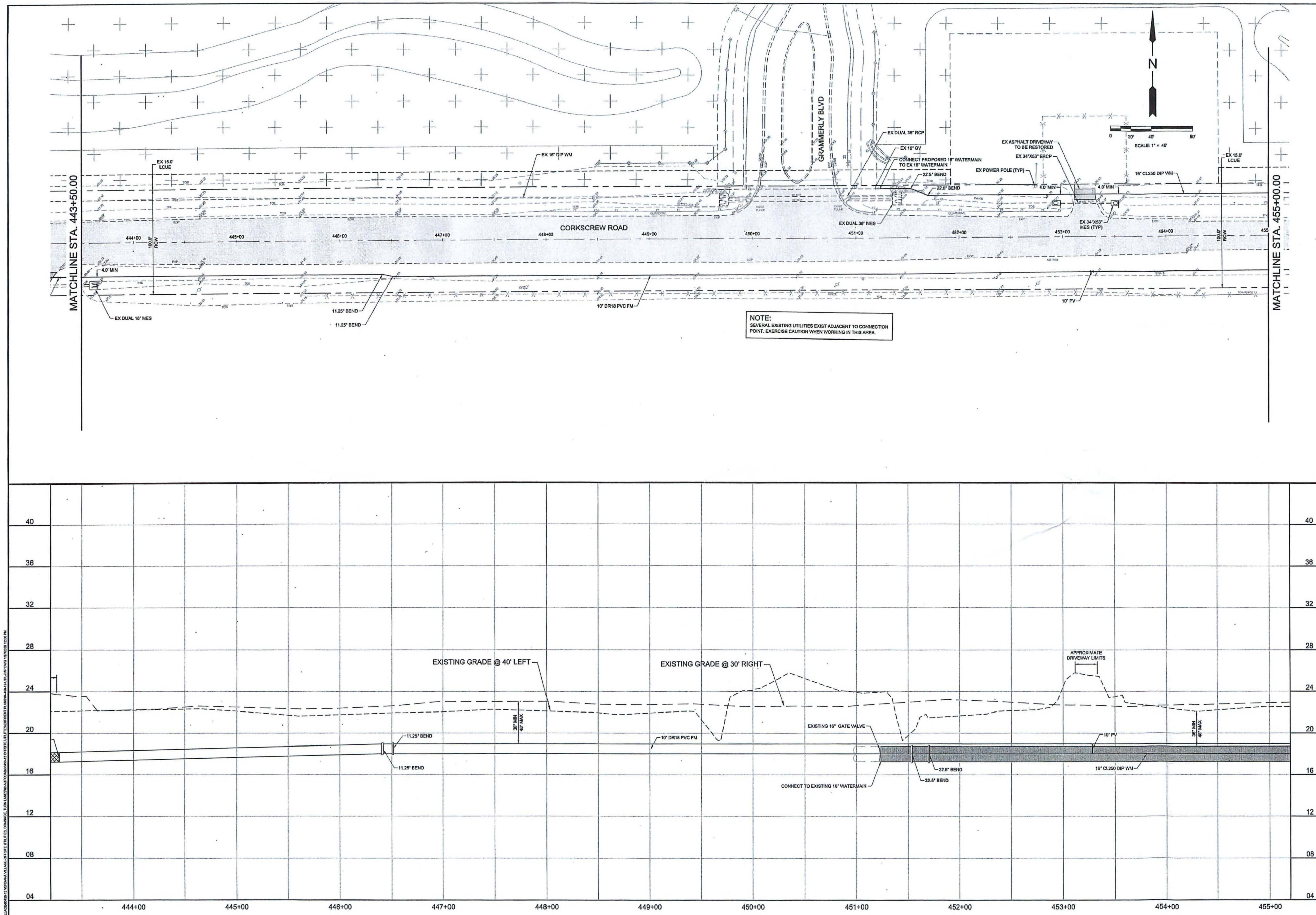
#	DATE	REVISIONS
		1ST SUBMITTAL (JAN-2020)
1	01/24/20	REVISE PER CLIENT AND ENGINEER

BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL LICENSE NO. 86651
FL COA # 29226

PROJECT #: 00450-12

SHEET: 03



DATUM NOTE:

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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

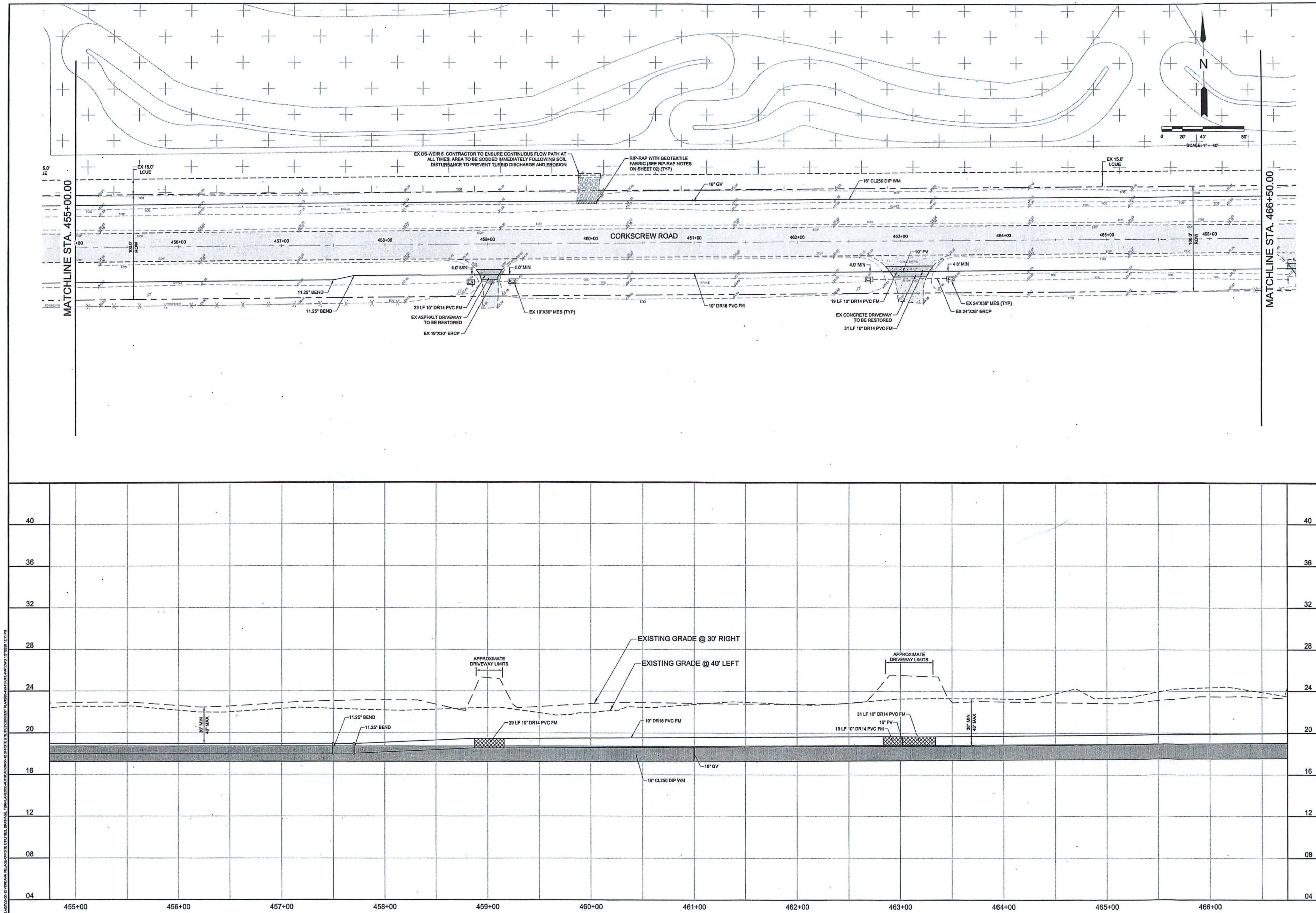
UTILITY PLAN AND PROFILE STA. 443+50 TO 455+00

#	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER
		1ST SUBMITTAL (JAN-2020)

BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86651
FL. COA # 29228

PROJECT #: 00450-12
SHEET: 04



DATUM NOTE:

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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

UTILITY PLAN AND PROFILE STA. 455+00 TO 466+50

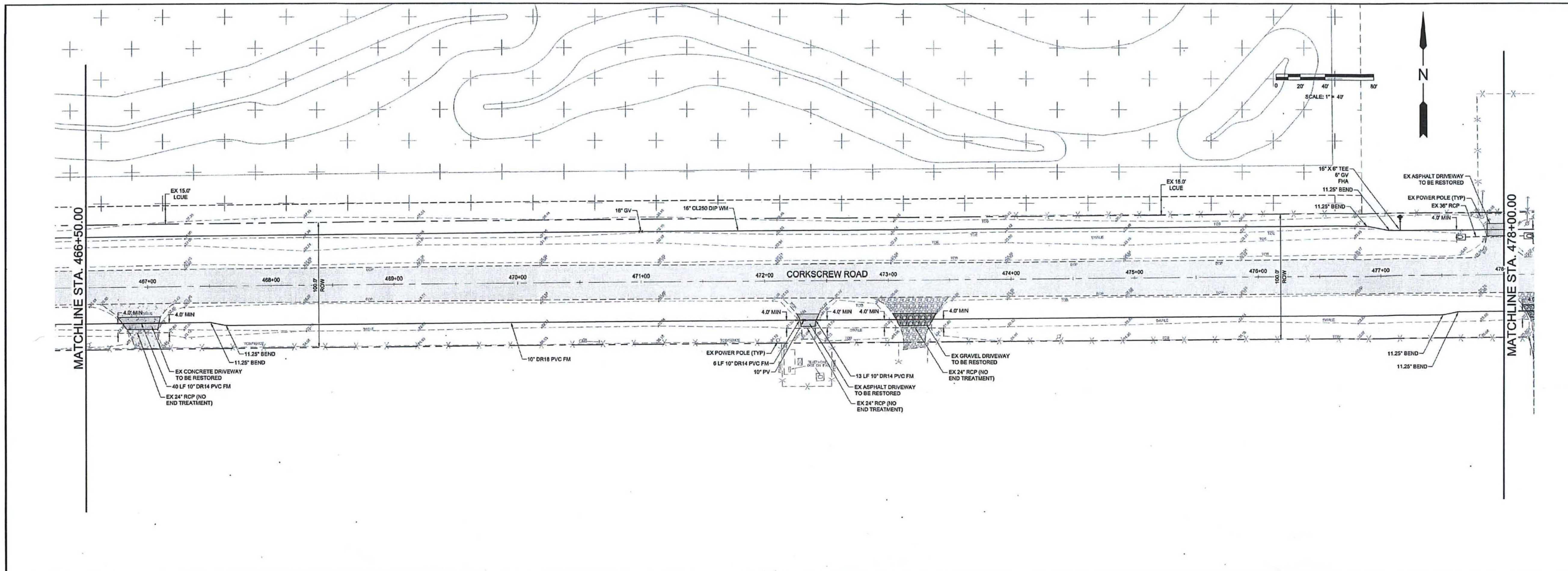
#	DATE	REVISIONS
		1ST SUBMITTAL (JAN-2020)
1	01/24/20	REVISE PER CLIENT AND ENGINEER

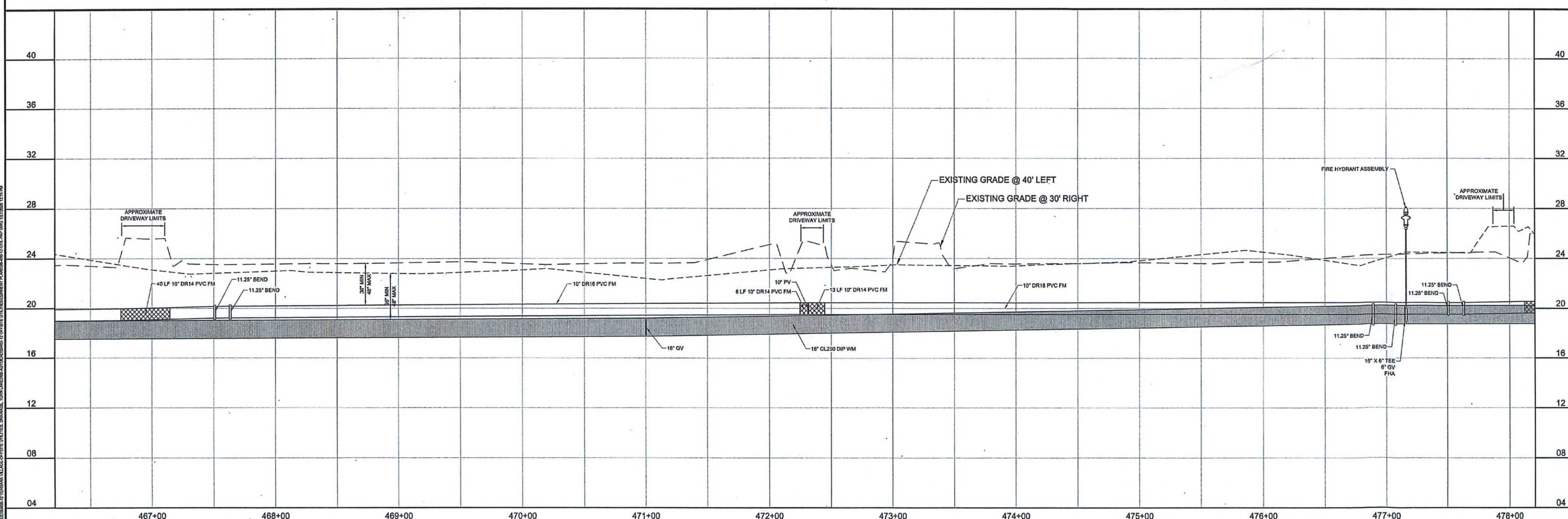
BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86651
FL. COA # 29226

PROJECT #: 00450-12

SHEET: 05





DATUM NOTE:

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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

UTILITY PLAN AND PROFILE STA. 466+50 TO 478+00

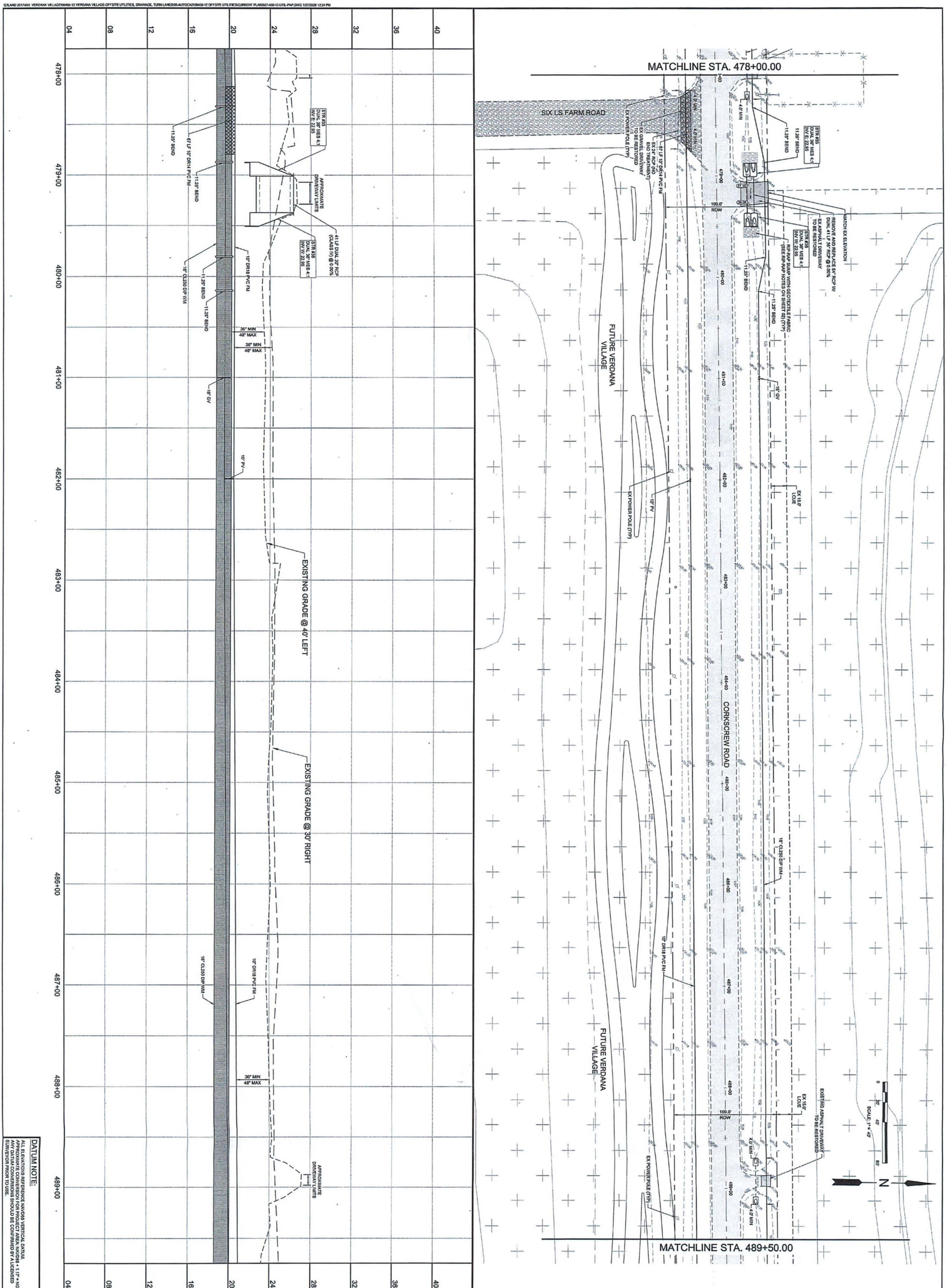
#	DATE	REVISIONS
1	3/12/20	REVISE PER CLIENT AND ENGINEER
		1ST SUBMITTAL (JAN-2020)

BRANDON M. FREY
LICENSE No 66651
STATE OF FLORIDA
PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL. LICENSE NO. 66651
FL. COA # 29226

PROJECT #: 00450-12

SHEET: 06



DATUM NOTE:
ALL ELEVATION REFERENCE MAYORK VERTICAL DATUM
APPROXIMATE CONVERSION FOR PROJECT AREA: NAVD88 + 1.17' = NGVD29
FIELD VERIFICATION OF ELEVATIONS SHOULD BE CONFIRMED BY A LICENSED SURVEYOR PRIOR TO USE.

BRANDON H. RISLEY, P.E.
FL. LICENSE NO. 86951
FL. COA # 28208

PROJECT #: 00450-12
SHEET: 07

#	DATE	REVISIONS
		1ST SUBMITTAL (JAN-2020)
1	9/1/2020	REVISE PER CLIENT AND ENGINEER

VERDANA VILLAGE OFF-SITE IMPROVEMENTS

UTILITY PLAN AND PROFILE STA. 478+50 TO 489+50

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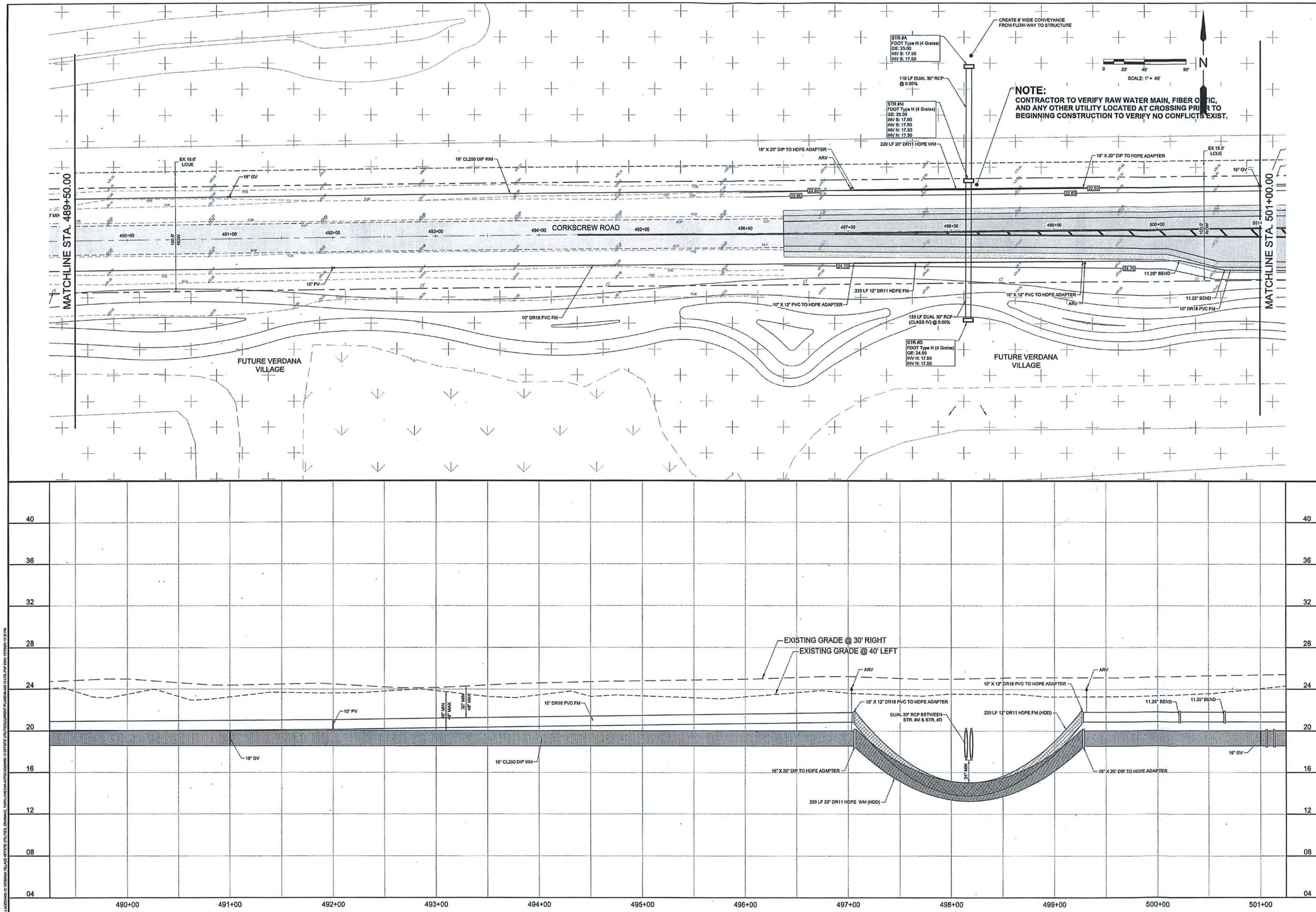

DATUM NOTE:

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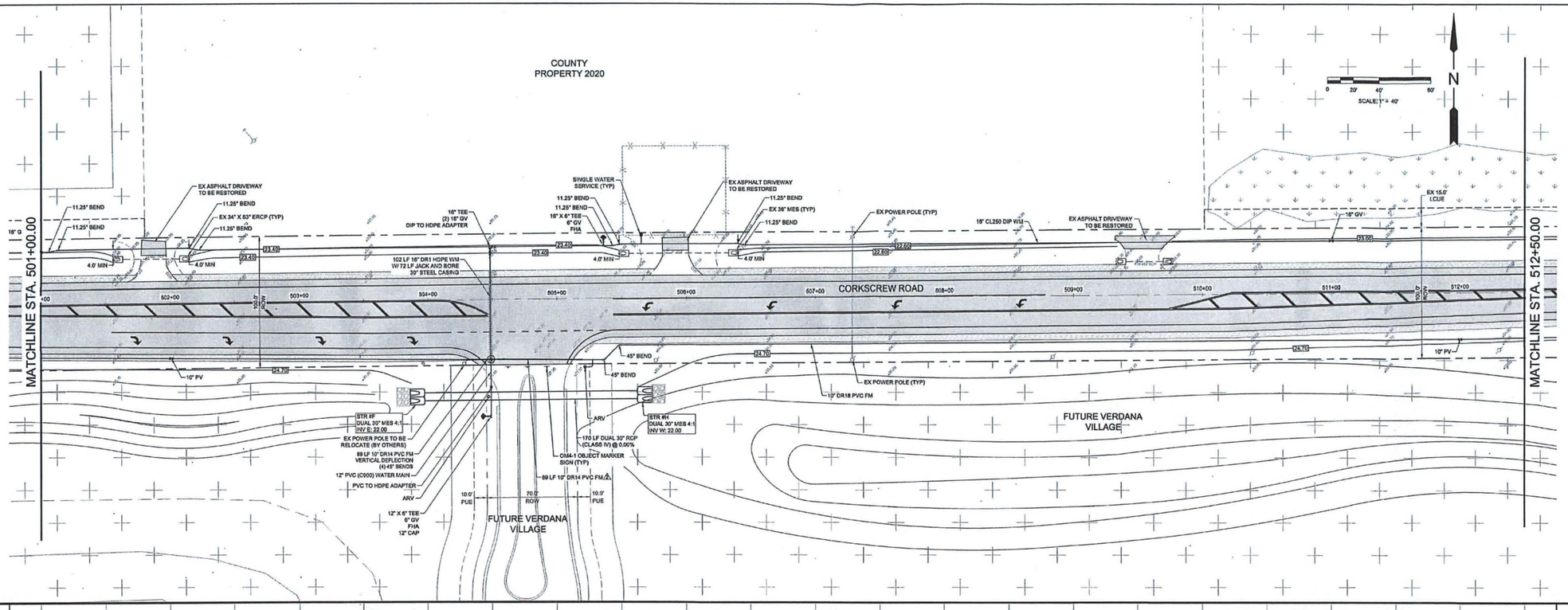
VERDANA VILLAGE OFF-SITE IMPROVEMENTS

UTILITY PLAN AND PROFILE STA. 489+50 TO 501+00

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86651
FL. COA # 29226

PROJECT #: 00450-12

SHEET: 08



DATUM NOTE:
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APPROXIMATE CONVERSION FOR PROJECT AREA: NAVD88 + 1.17' = NGVD29
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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

UTILITY PLAN AND PROFILE STA. 501+00 TO 512+50

#	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER
2	03/20/20	REVISE PER LEE COUNTY UTILITY COMMENTS

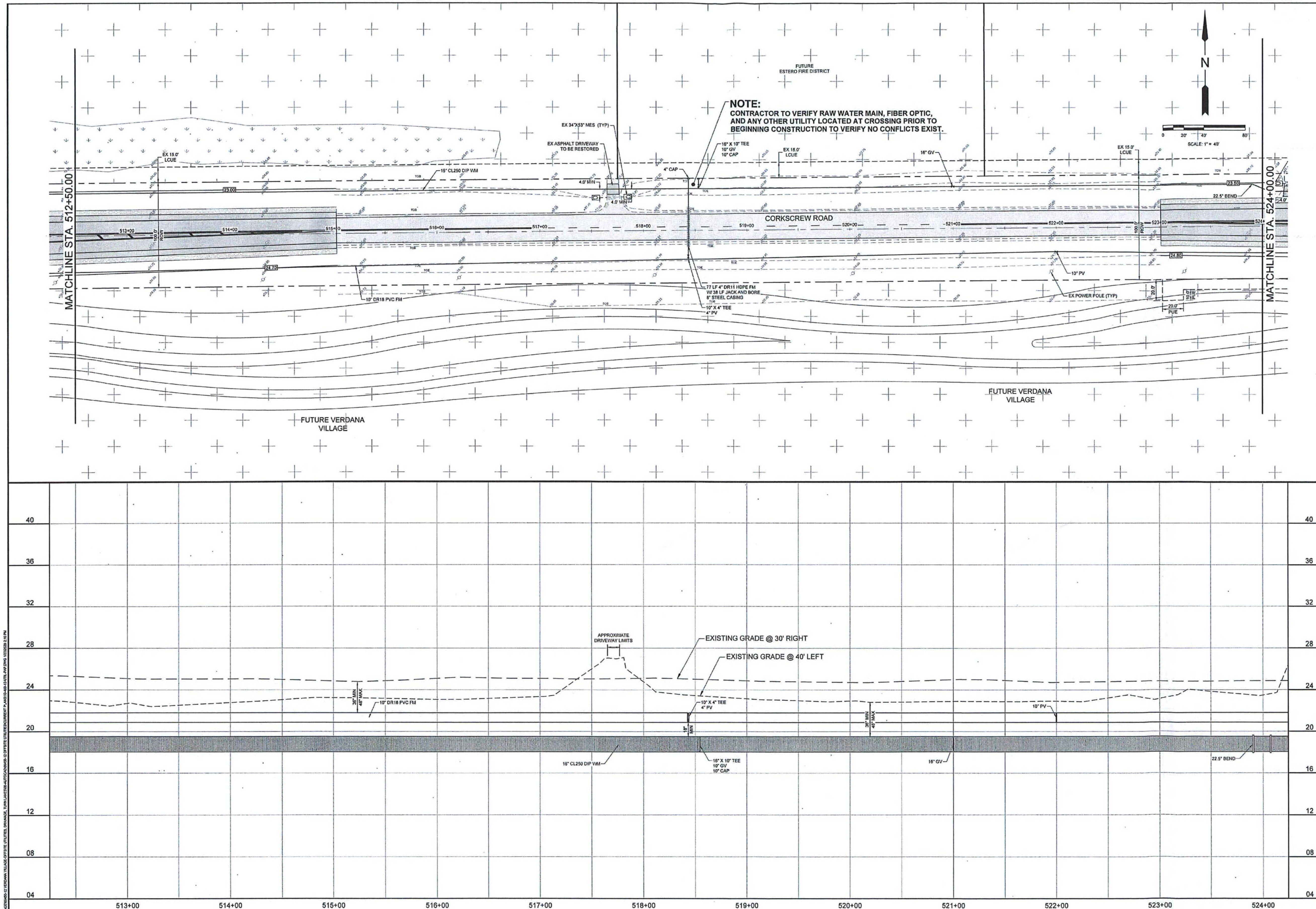
1ST SUBMITTAL (JAN-2020)

BRANDON M. FREY
LICENSE
No. 86651
STATE OF FLORIDA
PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86651
FL. COA # 29226

PROJECT #: 00450-12

SHEET: 09



DATUM NOTE:

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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

UTILITY PLAN AND PROFILE STA. 512+50 TO 524+00

#	DATE	REVISIONS
1		1ST SUBMITTAL (JAN 2020)
2	01/24/20	REVISE PER CLIENT AND ENGINEER

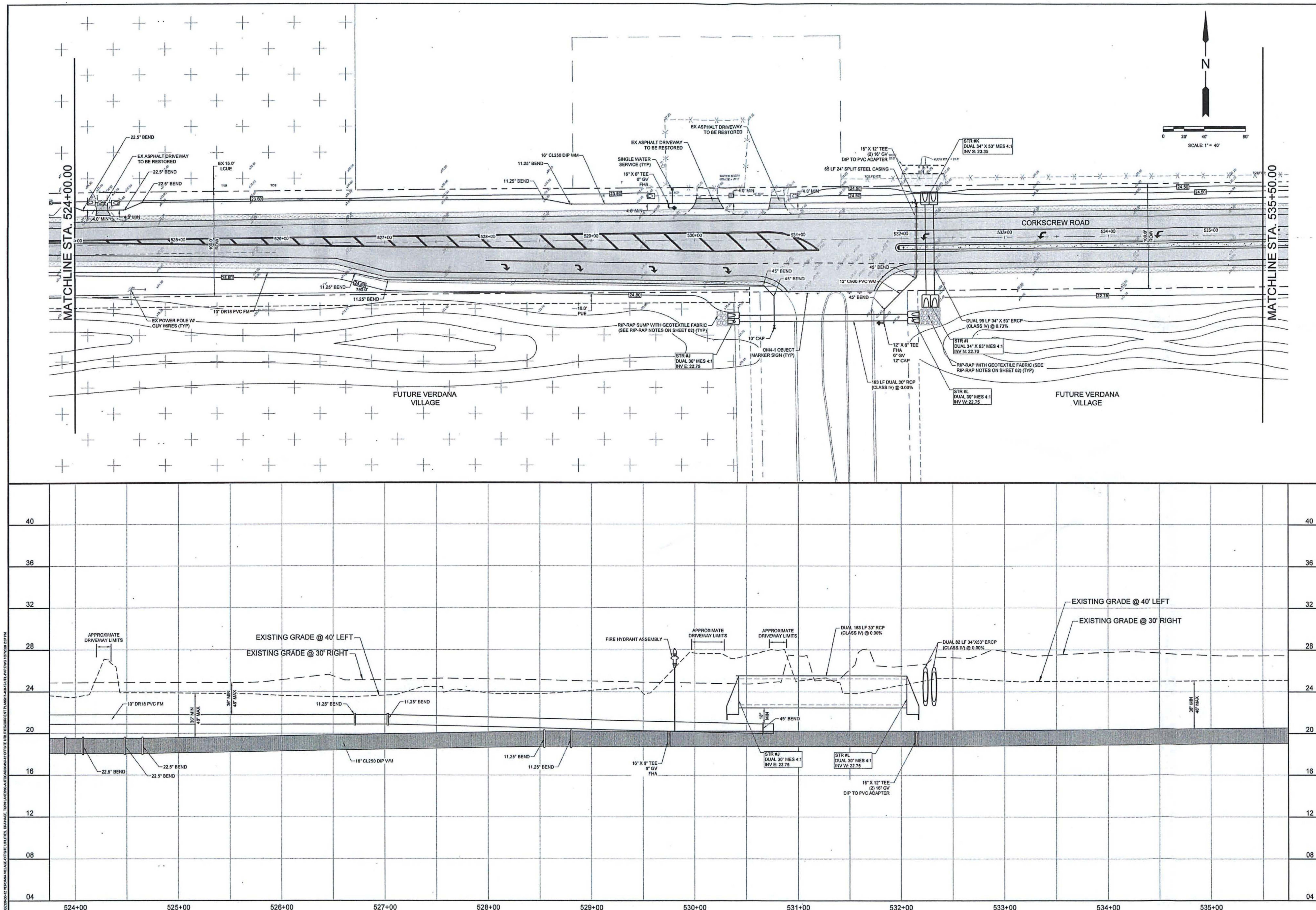
BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

3/4/2020

BRANDON M. FREY, P.E.
FL LICENSE NO. 86651
FL COA # 29226

PROJECT #: 00450-12

SHEET: 10



DATUM NOTE:

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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

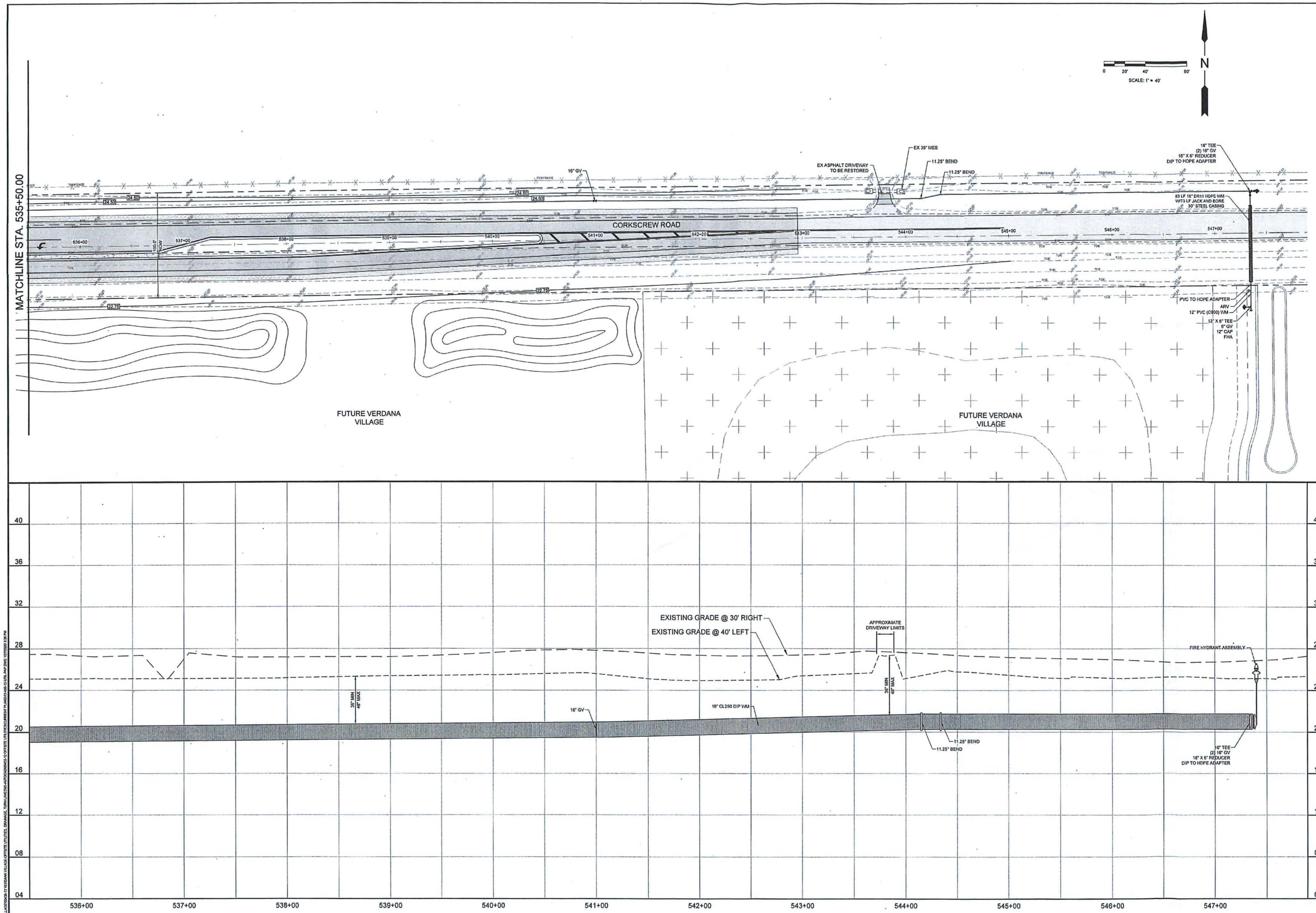
UTILITY PLAN AND PROFILE STA. 524+00 TO 535+50

#	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER
		1ST SUBMITTAL (JAN-2020)

BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL LICENSE NO. 86651
FL COA # 29226

PROJECT #: 00450-12
SHEET: 11



DATUM NOTE:

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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

UTILITY PLAN AND PROFILE STA. 535+50 TO END

#	DATE	REVISIONS
		1ST SUBMITTAL (JAN-2020)
1	3/04/20	REVISE PER CLIENT AND ENGINEER

BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86651
FL. COA # 29226

PROJECT #: 00450-12

SHEET: 12

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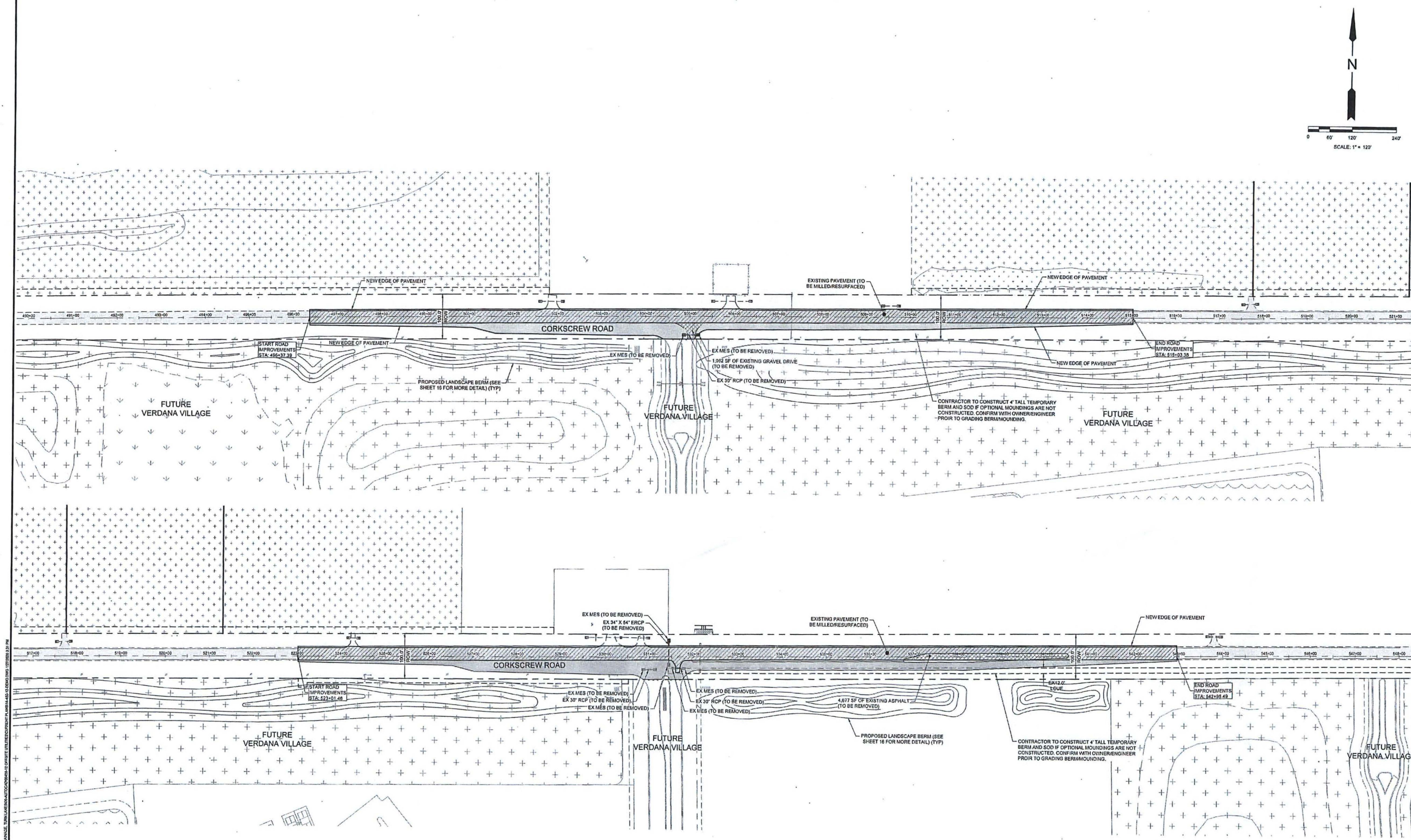
VERDANA VILLAGE OFF-SITE IMPROVEMENTS

CORKSCREW ROAD IMPROVEMENT PLAN



MILL/RESURFACING SPECIFICATIONS

1. MILLING SHALL BE TO 1" AVERAGE DEPTH IN AREAS AS DEPICTED ON THIS PLAN.
2. RESURFACING SHALL BE TYPE S-I ASPHALTIC CONCRETE. LEVEL AND OVERLAY TO PROVIDE 1.5% - 2.0% CROSS-SLOPE ON A TYPICAL CROWNED SECTION. MATCH EXISTING ELEVATIONS WHERE FEASIBLE

DATUM NOTE:

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#	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER

BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86651
FL. COA # 29226

PROJECT #: 00450-12

SHEET: 13

DATUM NOTE:

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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

CORKSCREW RD STRIPING AND GRADING PLAN (WEST)

#	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER

1ST SUBMITTAL (JAN-2020)

BRANDON M. FREY LICENSE No. 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

BRANDON M. FREY, P.E.
FL LICENSE NO. 86651
FL COA # 29220

PROJECT #: 00450-12

SHEET: 14

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VERDANA VILLAGE OFF-SITE IMPROVEMENTS

CORKSCREW RD STRIPING AND GRADING PLAN (EAST)

#	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER

1ST SUBMITTAL (JAN 2020)

SCALE: 1" = 30'

MATCH LINE STA: 528+50
SEE MATCH LINE BELOW

MATCH LINE STA: 528+50
SEE MATCH LINE ABOVE

MATCH LINE STA: 537+50
SEE MATCH LINE BELOW

MATCH LINE STA: 537+50
SEE MATCH LINE ABOVE

CORKSCREW ROAD

EX 6" YELLOW 10' SKIP 30' GAP
EX 6" SOLID WHITE STRIPE
EX 6" SOLID WHITE STRIPE
6" SOLID DOUBLE YELLOW STRIPE
MATCH EXISTING PAVEMENT ELEVATION
5' STABILIZED SHOULDER (TYP)
6" DOUBLE SOLID YELLOW STRIPE
50.0' TAPER
DIRECTIONAL ARROW RIGHT ONLY (TYP)
EX POWER POLE (TO BE RELOCATED)
20.0' PUE
18.0' PUE
6" DOUBLE SOLID YELLOW STRIPE
6" SOLID WHITE STRIPE
18" SOLID YELLOW STRIPE
DIVIDED MEDIAN SIGN (R4-7)
PAINTED YELLOW CAP
6" SOLID YELLOW STRIPE
EX UTILITY (TO BE REMOVED)
EX POWER POLE (TO BE RELOCATED) (BY OTHERS)
6" SOLID WHITE WHITE TURN ARROW (TYP)
STR #J DUAL 30" MES 4:1 INV E: 22.75
DUAL 183 LF 30" RCP (CLASS IV) @ 0.00%
STR #K DUAL 34" X 53" MES 4:1 INV S: 23.35
TOE OF SLOPE
5' STABILIZED SHOULDER (TYP)
WHITE TURN ARROW (TYP)
6" SOLID WHITE STRIPE
4' TRAFFIC SEPARATOR (TYPE I, OPTION I, PER FDOT INDEX 520-020)
6" SOLID YELLOW STRIPE
6" SOLID WHITE STRIPE
5' STABILIZED SHOULDER (TYP)
DUAL 96 LF 34" x 53" ERCP (CLASS IV) @ 0.73%
STR #I DUAL 34" X 53" MES 4:1 INV N: 22.70
STR #L DUAL 30" MES 4:1 INV W: 22.76
5' STABILIZED SHOULDER (TYP)
6" DOUBLE SOLID YELLOW STRIPE
15" SOLID YELLOW GORE
TYPE "E" CURB (TYP)
6" SOLID YELLOW STRIPE
EX UTILITIES (TO BE RELOCATED)
6" SOLID WHITE STRIPE
5' STABILIZED SHOULDER (TYP)
EX 6" SOLID WHITE STRIP
6" DOUBLE SOLID YELLOW STRIPE
EX 6" SOLID WHITE STRIP

DATUM NOTE:
ALL ELEVATIONS REFERENCE NAVD88 VERTICAL DATUM.
APPROXIMATE CONVERSION FOR PROJECT AREA: NAVD88 + 1.17' = NGVD29
ANY DATUM CONVERSIONS SHOULD BE CONFIRMED BY A LICENSED SURVEYOR PRIOR TO USE.

BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

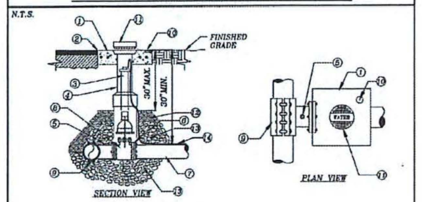
BRANDON M. FREY, P.E.
FL LICENSE NO. 86651
FL COA # 29228

PROJECT #: 00450-12
SHEET: 15

G:\LAND 2017\VDB_VERDANA VILLAGE\DWG\G-C\VERDANA VILLAGE OFFSITE UTILITIES_SWANSE_R.DWG\LAYOUTS\CORKSCREW RD OFFSITE UTILITIES\CORKSCREW PLANS\VDB-OFF-CORKSCREW PLANS.DWG 1/27/2020 3:25 PM

STANDARD DETAIL NO. 6.1
LEE COUNTY UTILITIES
TAPPING SLEEVE AND VALVE

N.T.S.

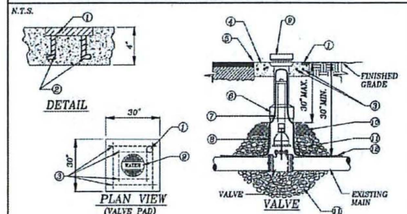


1. CONCRETE PAD (SEE VALVE INSTALLATION DETAIL)
2. SET TOP OF BOX FLUSH WITH FINISHED GRADE
3. EXTENSION STEM IF TOP OF OPERATING NUT IS MORE THAN 30" BELOW FINISH GRADE
4. VALVE BOX (SEE VALVE INSTALLATION DETAIL)
5. OUTLET FOR TESTING
6. MJ RESTRAINED
7. MAIN SIZE VARIES
8. TAPPING VALVE (SEE VALVE INSTALLATION DETAIL)
9. LCU APPROVED ALL STAINLESS STEEL PRESSURE RATED TAPPING SLEEVE. FOR SIZE ON SIZE TAPS A FLANGED TAPPING SLEEVE IS REQUIRED. SPRING LOADED TAPPING SLEEVE IS REQUIRED WHEN CONNECTING TO HDPE (SEE APPROVED MATERIAL LIST).
10. BRASS PLATE (SEE VALVE INSTALLATION DETAIL)
11. CAST IRON DROP COVER MARKED "WATER", "SEWER", OR "REUSE"
12. COMPACTED SUITABLE EARTH BACKFILL
13. 3/4" GRANULAR MATERIAL #57 STONE
14. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.2
LEE COUNTY UTILITIES
VALVE INSTALLATION

N.T.S.

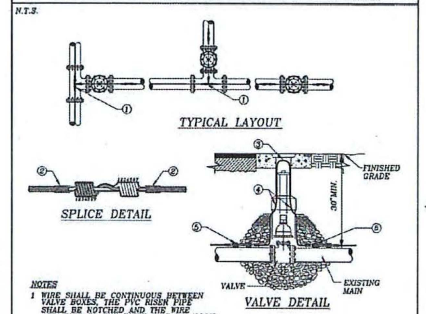


1. BRASS PLATE: SIZE OF VALVE, VALVE TYPE No. OF TURNS & DIRECTION TO OPEN VALVE M.F.G. & YEAR INSTALL SYSTEM "WATER" OR "SEWER" OR "REUSE" OR "FIRE"
2. ANCHOR
3. EIGHT (8) #4 BARS OVERLAP EACH CORNER BY 2"
4. 30"SQ X 4" THK.CONC.PAD SURROUNDING BOX, MIN. 3,000 P.S.I. POURED IN PLACE
5. SET TOP OF BOX FLUSH WITH FINISHED GRADE
6. HEAVY DUTY TRAFFIC BEARING CAST IRON VALVE BOX, ADJUSTABLE SCREW TYPE, 5 1/4" DIAMETER SHAFT THAT IS LCU APPROVED
7. EXTENSION STEM WITH 2" OPERATING NUT AS REQUIRED, IF NUT IS MORE THAN 30" BELOW FINISH GRADE
8. RISER NOT TO BEAR ON VALVE OR PIPE
9. CAST IRON DROP COVER MARKED "WATER" OR "SEWER" OR "REUSE OR "FIRE"
10. COMPACTED SUITABLE EARTH BACKFILL
11. 3/4" GRANULAR MATERIAL #57 STONE
12. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.3
LEE COUNTY UTILITIES
LOCATING WIRE FOR PRESSURE MAINS

N.T.S.



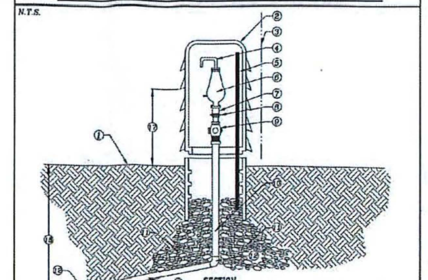
NOTES
1. WIRE SHALL BE CONTINUOUS BETWEEN VALVE BOXES, THE PVC RISER PIPE SHALL BE NOTCHED AND THE WIRE ATTACHED TO THE RISER PIPE TO ALLOW FOR THE WIRE TO FIT INSIDE THE CAST IRON VALVE BOX WITHOUT SHEARING THE WIRE.
2. LOCATING WIRE SHALL BE LAID ON TOP OF THE MAIN, AND SHALL BE TAPED TO IT AT 10' INTERVALS AND TAPED AT ALL FITTINGS. TAPE SHALL BE 10 MIL POLYETHYLENE.
3. CONTRACTOR SHALL CONDUCT A CONTINUITY TEST ON ALL LOCATING WIRE SPLICES. PRIOR TO SCHEDULING THE OFFICIAL FINAL INSPECTION WITH LCU.
4. ALL SPLICES SHALL UTILIZE A DIRECT BURY WATERPROOF SPLICE KIT. (SEE APPROVED MATERIAL LIST)

1. SPLICE RUN TOGETHER, KEEP CLEAR OF FITTING, TYPICAL
2. COVER SPLICE WITH 2 WRAPS OF 10 MIL. POLYETHYLENE TAPE
3. 6" LOOP OF BARE WIRE, 9" MAX. DEPTH TO TOP OF BARE WIRE
4. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE
5. SPLICE (SEE DETAIL THIS SHEET)

REV: 12/10/2015

STANDARD DETAIL NO. 6.4
LEE COUNTY UTILITIES
AUTOMATIC AIR RELEASE VALVE

N.T.S.

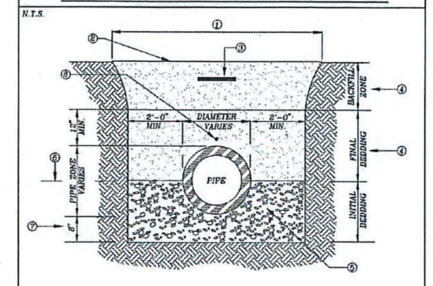


1. FINISHED GRADE
2. PEDESTAL HOUSING (SEE APPROVED MATERIAL LIST) COLORS: BLUE-WATER, GREEN-SEWER, PANTONE-REUSE
3. EDGE OF RIGHT-OF-WAY
4. PVC STREET ELL
5. S.S. POST WITH S.S. HARDWARE AND S.S. LOCKING HASP WITH BRASS LOCK
6. SHORT BODY AUTOMATIC AIR RELEASE VALVE (SEE APPROVED MATERIAL LIST) ALL INTERNAL WORKING PARTS SHALL BE 300 SERIES STAINLESS STEEL
7. PVC SCHEDULE 80
8. PVC REDUCER IF NEEDED
9. BRASS BALL CORP. STOP
10. 2" POLY-TUBE
11. 3/4" GRANULAR MATERIAL, #57 STONE
12. 2" BRASS FITTING IF NECESSARY
13. 1% MIN. SLOPE UP, 2" POLY-TUBE
14. TAP AT CROWN OF PIPE
15. 2" DOUBLE STRAP TAPPING SADDLE (SEE APPROVED MATERIAL LIST)
16. EXISTING PRESSURE MAIN
17. 24"
18. 30" MIN.

REV: 12/10/2015

STANDARD DETAIL NO. 6.5
LEE COUNTY UTILITIES
TRENCH CROSS SECTION

N.T.S.

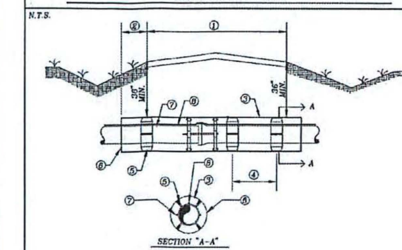


1. EXCAVATED TRENCH
2. FINISHED GRADE
3. MARKING TAPE 12" DEPTH MAX.
4. MATERIALS CLEAN DRY SAND, FINE LIME ROCK OR PIT SHELL MECHANICALLY COMPACTED IN 6" LIFTS TO AT LEAST 95% OF MAX. DENSITY, OR 98% IF UNDER PAVED AREA OF ROADWAY.
5. #57 STONE LOCATED UNDER PIPE OR EXISTING UNDISTURBED SUITABLE MATERIAL
6. SPRING LINE
7. STANDARD 6" MIN TRENCH UNDERCUT AND BACKFILL WITH #57 STONE COMPACTED IN 6" LIFTS ADDITIONAL UNDERCUT AND CRUSHED ROCK BEDDING FOUNDATION WHEN DIRECTED BY L.C.U. THE CONTRACTOR IS TO REMOVE UNSTABLE MATERIAL FROM THE TRENCH FOUNDATION. THEN INSTALL STABILIZED CRUSHED ROCK BACKFILL WITH #57 STONE COMPACTED IN 6" LIFTS
8. LOCATING WIRE IS REQUIRED FOR ALL PRESSURIZED PIPELINES.

REV: 12/10/2015

STANDARD DETAIL NO. 6.6
LEE COUNTY UTILITIES
JACK AND BORE

N.T.S.

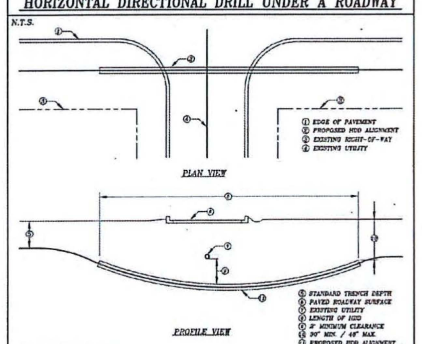


1. LIMITS OF PAVEMENT
2. EXTEND CASING 4' MIN. BEYOND E.O.P. AND/OR BACK OF CURB FOR L.C.D.O.T. MAINTAINED R.O.W. AND 8' MIN. FOR F.D.O.T. MAINTAINED R.O.W.
3. STEEL CASING PIPE CONFORMING TO ASTM A-139
4. 7' O.C. MAX OR AS PER MANUFACTURER'S RECOMMENDATION
5. L.C.U. APPROVED CASING SPACERS
6. SEAL CASING ENDS WITH: 8" WALL OF BRICK MASONRY WITH WEEP HOLE INSTALLED NEAR BOTTOM, OR APPROVED EQUAL
7. ALL JOINTS OF THE CARRIER PIPE SHALL HAVE BELL RESTRAINTS
8. 12 GAUGE DOUBLE INSULATED COPPER WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.7
LEE COUNTY UTILITIES
HORIZONTAL DIRECTIONAL DRILL UNDER A ROADWAY

N.T.S.



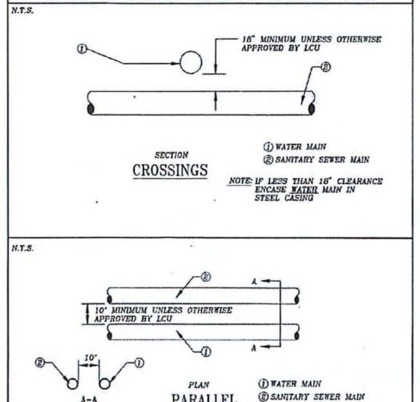
1. EDGE OF PAVEMENT
2. PROPOSED HDD ALIGNMENT
3. EXISTING RIGHT-OF-WAY
4. EXISTING UTILITY
5. STANDARD TRENCH DEPTH
6. PAVED ROADWAY SURFACE
7. EXISTING UTILITY
8. LENGTH OF HDD
9. 3' MINIMUM CLEARANCE
10. 30" MIN. / 48" MAX.
11. PROPOSED HDD ALIGNMENT

HDD INSTALLATION NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LEE COUNTY UTILITIES DESIGN MANUAL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF AFFECTED AGENCIES AND COORDINATION WITH ALL UTILITIES PRIOR TO CONSTRUCTION.
3. ALL CONSTRUCTION MATERIALS, INCLUDING DRILLING FLUID, SHALL BE REMOVED FROM THE SITE PRIOR TO RESTORATION OF DISTURBED AREAS.
4. ALL RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE LCU DESIGN MANUAL.
5. CASING DIAMETER SHALL BE IN ACCORDANCE WITH THE LCU DESIGN MANUAL.
6. NO CASING SPACERS REQUIRED.
7. WHEN CASING IS REQUIRED INSTALL 1" HDPE PIPE ATTACHED TO THE CARRIER PIPE WITH 12 GAUGE DOUBLE INSULATED COPPER WIRE INSIDE THE HDPE PIPE.

REV: 12/10/2015

STANDARD DETAIL NO. 6.8
LEE COUNTY UTILITIES
WATER AND SEWER CROSSING DETAIL

N.T.S.



1. WATER MAIN
2. SANITARY SEWER MAIN

NOTE: IF LESS THAN 18" CLEARANCE ENCASE WATER MAIN IN STEEL CASING

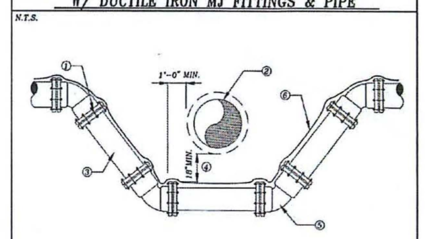
1. WATER MAIN
2. SANITARY SEWER MAIN

NOTE: IF LESS THAN 10' CLEARANCE ENCASE WATER MAIN IN STEEL CASING

REV: 12/10/2015

STANDARD DETAIL NO. 6.10
LEE COUNTY UTILITIES
WATER PRESSURE LINE VERTICAL OFFSET W/ DUCTILE IRON MJ FITTINGS & PIPE

N.T.S.

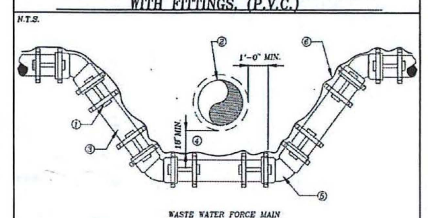


1. LCU APPROVED JOINT RESTRAINT FOR D.I., M.J. PIPE AND FITTINGS PLACED IN ACCORDANCE WITH JOINT RESTRAINT SCHEDULE. (SEE DETAIL 6.12)
2. CONFLICT PIPE
3. LCU APPROVED DUCTILE IRON PIPING PRESSURE CLASS 350
4. 18" MIN. UNLESS OTHERWISE APPROVED BY LCU
5. 45° MECHANICAL JOINT FITTING, TYPICAL
6. 12 GAUGE DOUBLE INSULATED COPPER WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.11
LEE COUNTY UTILITIES
WASTE WATER FORCE MAIN VERTICAL OFFSET WITH FITTINGS, (P.V.C.)

N.T.S.



1. LCU APPROVED JOINT RESTRAINT FOR P.V.C., M.J. PIPE AND FITTINGS PLACED IN ACCORDANCE WITH JOINT RESTRAINT SCHEDULE. (SEE DETAIL 6.12)
2. CONFLICT PIPE
3. LCU APPROVED C-900 PVC DR 14
4. 18" MIN. UNLESS OTHERWISE APPROVED BY LCU
5. 45° MECHANICAL JOINT FITTING, TYPICAL
6. 12 GAUGE DOUBLE INSULATED COPPER WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.12
LEE COUNTY UTILITIES
RESTRAINED LENGTH SCHEDULE

N.T.S.

DUCTILE IRON PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)					
	HORIZONTAL BENDS				DEAD END	HORIZONTAL TEE
	90°	45°	22-1/2°	11-1/4°		
4	17	7	4	2	29	6
6	23	10	5	2	40	17
8	29	12	6	3	53	29
10	35	14	7	4	63	38
12	41	17	.8	4	74	49
16	51	21	11	5	94	68
24	69	29	14	7	131	105
30	81	34	17	8	156	129

PVC PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)					
	HORIZONTAL BENDS				DEAD END	HORIZONTAL TEE
	90°	45°	22-1/2°	11-1/4°		
4	20	8	4	2	45	8
6	29	12	6	.3	63	25
8	36	15	8	4	83	43
10	44	18	9	5	99	58
12	51	21	11	6	116	74
16	63	26	13	7	149	103
24	87	36	18	9	208	158
30	102	42	21	10	248	194

A COMPLETE JOINT RESTRAINING SCHEDULE FOR ALL ENCOUNTERED VERTICAL & HORIZONTAL BENDS, VERTICAL OFFSETS, TEES, AND DEAD ENDS SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER.

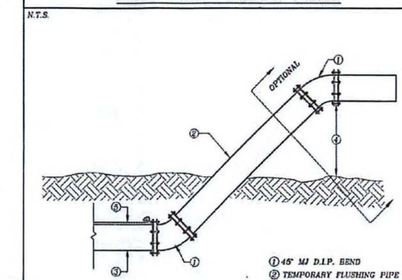
LENGTH FIGURES BASED ON FOLLOWING:

Pressure = 150 psi, FS = 1.5, trench type = 3, 30" cover on Bare pipe, Soil type = GP & SP

REV: 12/10/2015

STANDARD DETAIL NO. 6.13
LEE COUNTY UTILITIES
WATER MAIN FLUSHING DETAIL

N.T.S.



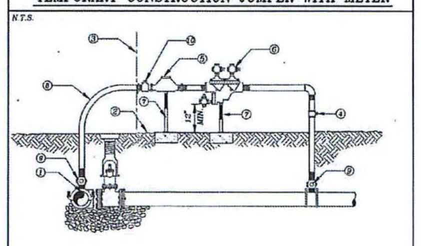
1. 45° MJ D.I.P. BEND
2. TEMPORARY FLUSHING PIPE
3. END OF WATER MAIN
4. 24" MIN.

NOTES:
1. FLUSHING DETAIL TO BE USED ON WATER LINES 6" DIAMETER OR GREATER.
2. FLUSHING PIPE SHALL BE THE SAME DIAMETER AS WATER MAIN.
3. CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE FOR FLUSHED WATER.
4. PROVIDE M.J. CAP IF ASSEMBLY IS LEFT IN PLACE UNATTENDED.
5. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.15
LEE COUNTY UTILITIES
TEMPORARY CONSTRUCTION JUMPER WITH METER

N.T.S.



NOTES:

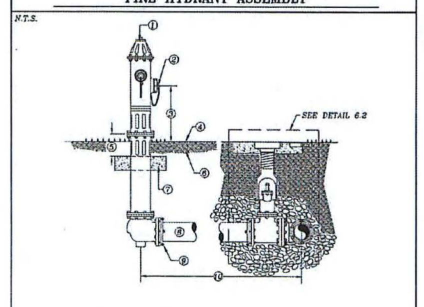
CONTRACTOR/CUSTOMER SHALL APPLY AT LEE COUNTY UTILITIES FOR TEMPORARY WATER SERVICE FIVE DAYS PRIOR TO REQUIRED SERVICE DATE. THE METER ONLY WILL BE FURNISHED BY LEE COUNTY UTILITIES. ALL FITTINGS, PIPING, VALVES AND MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR/CUSTOMER. THE APPROVED BACKFLOW PREVENTION DEVICE SHALL BE TESTED AND CERTIFIED BY LEE COUNTY UTILITIES APPROVED CERTIFIED BACKFLOW PREVENTION TECHNICIAN (FURNISHED BY CONTRACTOR/CUSTOMER) AT TIME OF METER INSTALLATION. CONTRACTOR/CUSTOMER SHALL PROTECT THE ASSEMBLY FROM DAMAGE. TEMPORARY CONSTRUCTION JUMPER/METER ASSEMBLY SHALL NOT BE REMOVED UNTIL SYSTEM IS ACCEPTED AND DEPARTMENT OF HEALTH CERTIFICATION AND CLEARANCE FOR SERVICE FORM HAS BEEN RECEIVED BY LEE COUNTY UTILITIES. WHEN THE NEW SYSTEM IS ACCEPTED, THE TEMPORARY CONSTRUCTION JUMPER METER ASSEMBLY MUST BE COMPLETELY REMOVED DOWN TO CORP STOPS.

1. TAPPING SLEEVE AND VALVE TO BE FULLY RESTRAINED ON EXISTING MAIN (SEE LCU STANDARD DETAIL)
2. GRADE
3. PROPERTY LINE AND/OR RIGHT OF WAY LINE
4. BRONZE BALL VALVE
5. METER FURNISHED BY LEE COUNTY UTILITIES
6. REDUCED PRESSURE BACKFLOW PREVENTER
7. PIPE STAND (SEE LCU STANDARD DETAIL)
8. 2" DIA. HDPE DR9
9. 2" DIA. CORPORATION STOP
10. 2" DIA. CURB STOP

REV: 12/10/2015

STANDARD DETAIL NO. 6.24
LEE COUNTY UTILITIES
FIRE HYDRANT ASSEMBLY

N.T.S.

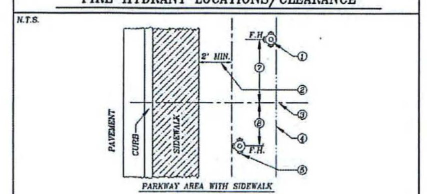


1. FIRE HYDRANT: STANDARD A.W.W.A. SAFETY YELLOW (SEE APPROVED MATERIAL LIST)
2. PUMPER CONNECTION FACING AS PER FIRE DISTRICT RECOMMENDATION
3. 18" MIN. - 24" MAX.
4. FINISHED GRADE
5. 6" MIN. CLEARANCE
6. COMPACTED FILL
7. 30" X 30" X 4" CONCRETE BREAK AWAY CONCRETE PAD, 3000 P.S.I.
8. PIPE TO BE D.I.P., PRESSURE CLASS 350
9. RESTRAINED JOINTS, FROM HYDRANT TO WATER MAIN
10. VARIABLE DISTANCE, IF GREATER THAN 100' A VALVE SHALL BE INSTALLED AT HYDRANT BASE

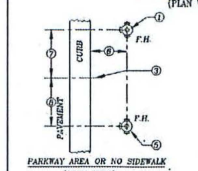
REV: 12/10/2015

STANDARD DETAIL NO. 6.25
LEE COUNTY UTILITIES
FIRE HYDRANT LOCATIONS/CLEARANCE

N.T.S.

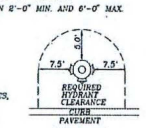


PARKWAY AREA WITH SIDEWALK
(PLAN VIEW)



PARKWAY AREA OR NO SIDEWALK
(PLAN VIEW)

1. PREFERRED LOCATION
2. F.H. TO BE LOCATED 2' MINIMUM FROM EDGE OF SIDEWALK
3. P.T. OR P.C. OF CURB RETURN
4. PROPERTY LINE RIGHT-OF-WAY OR LIMIT OF EASEMENT
5. ACCEPTABLE LOCATION WITH CURB RADIUS OF 20' OR MORE
6. BETWEEN 2'-0" MIN. AND 6'-0" MAX.
7. 6'-0"
8. 4'-0"



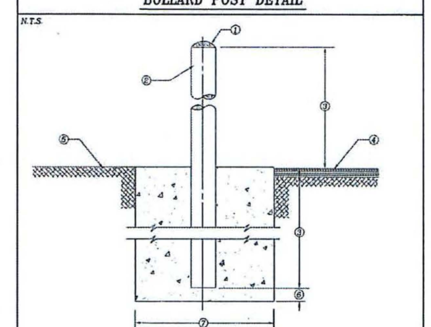
(PLAN VIEW)

NOTES
1. OBSTRUCTIONS SUCH AS UTILITY POLES, STREET SIGNS, IRRIGATION BOXES, FENCES, ETC. SHALL NOT BE PLACED BETWEEN CURB AND HYDRANT.
2. SOME LOCATIONS APPLY AT EITHER END OF CURB RETURNS.
3. DIMENSION SHOWN ON CONSTRUCTION DRAWINGS SUPERCEDE LOCATIONS SHOWN HERE.

REV: 12/10/2015

STANDARD DETAIL NO. 6.44
LEE COUNTY UTILITIES
BOLLARD POST DETAIL

N.T.S.



1. FILL AND TOP PIPE WITH CONCRETE
2. 6" DIA. x 6'-0" LONG PRESSURE CLASS 350 DUCTILE IRON PIPE
3. 3'-0" MINIMUM
4. PAVEMENT
5. FINISHED GRADE
6. 3"
7. 16" DIA. CONCRETE ENCASEMENT 3000 P.S.I.

NOTE:
1. PAINT BOLLARD TO LCU STANDARDS

REV: 12/10/2015

DATUM NOTE:

ALL ELEVATIONS REFERENCE NAVD88 VERTICAL DATUM.
APPROXIMATE CONVERSION FOR PROJECT AREA: NAVD88 + 1.17' = NGVD29
ANY DATUM CONVERSIONS SHOULD BE CONFIRMED BY A LICENSED SURVEYOR PRIOR TO USE.

J.R. EVANS ENGINEERING, P.A.
9351 CORKSCREW ROAD, SUITE 102
ESTERO, FLORIDA 33928
PHONE: (239) 405-9148
FAX: (239) 288-2537
WWW.JREVANSENGINEERING.COM

VERDANA VILLAGE OFF-SITE IMPROVEMENTS

LCU DETAILS

#	DATE	REVISIONS
1	01/24/20	REVISE PER CLIENT AND ENGINEER	1ST SUBMITTAL (JAN-2020)

BRANDON M. FREY LICENSE No 86651 STATE OF FLORIDA PROFESSIONAL ENGINEER

3/4/2020

BRANDON M. FREY, P.E.
FL. LICENSE NO. 86651
FL. COA # 29226

PROJECT #: 00450-12

SHEET: 17

EXHIBIT "D"
EXHIBIT "B" TO ORDINANCE 17-14

Exhibit B - EEPC Rebateable Area Ordinance

Corkscrew Water Main Upsizing

Final Construction Cost	$391,359.10

ERU Estimates

Parcel Grouping	ERU
Tier 2 Acreage	320
Existing Acreage Subd.	70
~~Pepperland Ranch~~	~~700~~
~~Tier 1 Acreage*~~	~~640~~
Total	1,730

VERDANA VILLAGE 2,400

2,790

Cost per ERU***	$226.22

$141.27

Pinewoods Master Pump Station Upsizing

NTE Construction Cost	$1,160,389.85

Parcel Grouping	ERU
Tier 2 Acreage	320
Existing Acreage	173
~~Pepperland Ranch~~	~~700~~
~~Tier 1 Acreage*~~	~~640~~
Wild Blue**	700
Potential Future Large Lot Developments	370
Total	2,903

VERDANA VILLAGE 2,400

3,963

Cost per ERU***	$ 399.72

$292.81

*Please note that the Tier 1 Acreage is included in the proposed Verdana development.

**Wild Blue has requested to send flows for 700 ERU of their approved 1000 to the EEPC Rebateable Area.

***Cost per ERU is rounded to nearest cent.